

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



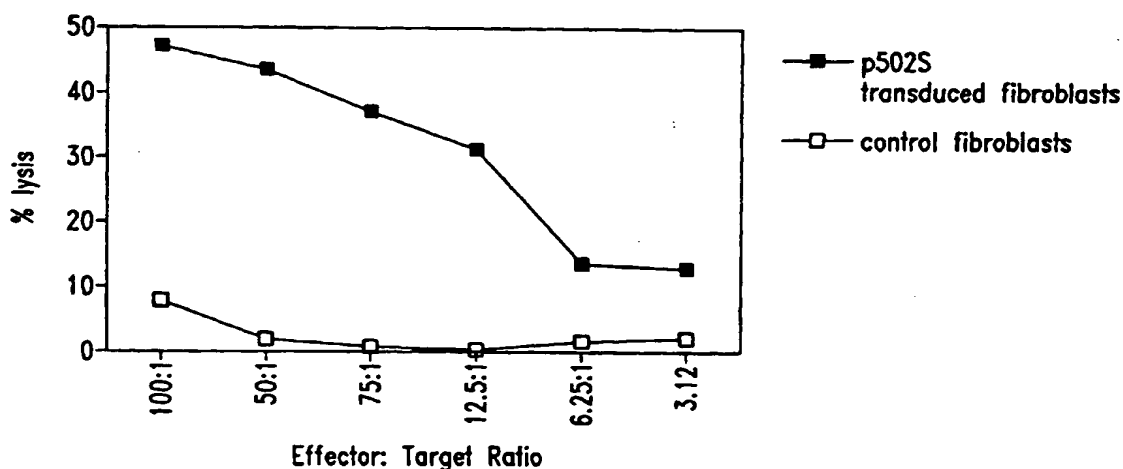
(43) International Publication Date
12 April 2001 (12.04.2001)

PCT

(10) International Publication Number
WO 01/25272 A2

- (51) International Patent Classification⁷: **C07K 14/00**
- (21) International Application Number: **PCT/US00/27464**
- (22) International Filing Date: **4 October 2000 (04.10.2000)**
- (25) Filing Language: **English**
- (26) Publication Language: **English**
- (30) Priority Data:
60/157,455 **4 October 1999 (04.10.1999)** **US**
- (71) Applicant (for all designated States except US): **CORIXA CORPORATION** [US/US]; Suite 200, 1124 Columbia Street, Seattle, WA 98104 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **XŮ, Jiangchun** [US/US]; 15805 SE 43rd Place, Bellevue, WA 98006 (US). **SKEIKY, Yasir, A., W.** [CA/US]; 15106 SE 47th Place, Bellevue, WA 98006 (US). **REED, Steven, G.** [US/US]; 2843 - 122nd Place NE, Bellevue, WA 98005 (US). **CHEEVER, Martin, A.** [US/US]; 6210 Southeast 22nd, Mercer Island, WA 98040 (US).
- (74) Agents: **POTTER, Jane, E., R. et al.**; Seed Intellectual Property Law Group PLLC, Suite 6300, 701 Fifth Avenue, Seattle, WA 98104-7092 (US).
- (81) Designated States (national): **AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.**
- (84) Designated States (regional): **ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).**
- Published:
— Without international search report and to be republished upon receipt of that report.
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **COMPOSITIONS AND METHODS FOR THERAPY AND DIAGNOSIS OF PROSTATE CANCER**



(57) Abstract: Compositions and methods for the therapy and diagnosis of cancer, such as prostate cancer, are disclosed. Compositions may comprise one or more prostate tumor proteins, immunogenic portions thereof, or polynucleotides that encode such portions. Alternatively, a therapeutic composition may comprise an antigen presenting cell that expresses a prostate tumor protein, or a T cell that is specific for cells expressing such a protein. Such compositions may be used, for example, for the prevention and treatment of diseases such as prostate cancer. Diagnostic methods based on detecting a prostate tumor protein, or mRNA encoding such a protein, in a sample are also provided.

WO 01/25272 A2

COMPOSITIONS AND METHODS FOR THERAPY AND DIAGNOSIS OF PROSTATE CANCER

TECHNICAL FIELD

The present invention relates generally to therapy and diagnosis of cancer, such as prostate cancer. The invention is more specifically related to polypeptides comprising at least a portion of a prostate tumor protein, and to polynucleotides encoding such polypeptides. Such polypeptides and polynucleotides may be used in vaccines and pharmaceutical compositions for prevention and treatment of prostate cancer, and for the diagnosis and monitoring of such cancers.

BACKGROUND OF THE INVENTION

Prostate cancer is the most common form of cancer among males, with an estimated incidence of 30% in men over the age of 50. Overwhelming clinical evidence shows that human prostate cancer has the propensity to metastasize to bone, and the disease appears to progress inevitably from androgen dependent to androgen refractory status, leading to increased patient mortality. This prevalent disease is currently the second leading cause of cancer death among men in the U.S.

In spite of considerable research into therapies for the disease, prostate cancer remains difficult to treat. Commonly, treatment is based on surgery and/or radiation therapy, but these methods are ineffective in a significant percentage of cases. Two previously identified prostate specific proteins - prostate specific antigen (PSA) and prostatic acid phosphatase (PAP) - have limited therapeutic and diagnostic potential. For example, PSA levels do not always correlate well with the presence of prostate cancer, being positive in a percentage of non-prostate cancer cases, including benign prostatic hyperplasia (BPH). Furthermore, PSA measurements correlate with prostate volume, and do not indicate the level of metastasis.

In spite of considerable research into therapies for these and other cancers, prostate cancer remains difficult to diagnose and treat effectively. Accordingly, there is a need in the art for improved methods for detecting and treating

such cancers. The present invention fulfills these needs and further provides other related advantages.

SUMMARY OF THE INVENTION

Briefly stated, the present invention provides compositions and methods for the diagnosis and therapy of cancer, such as prostate cancer. In one aspect, the present invention provides polypeptides comprising at least a portion of a prostate tumor protein, or a variant thereof. Certain portions and other variants are immunogenic, such that the ability of the variant to react with antigen-specific antisera is not substantially diminished. Within certain embodiments, the polypeptide comprises at least an immunogenic portion of a prostate tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of: (a) sequences recited in any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472; (b) sequences that hybridize to any of the foregoing sequences under moderately stringent conditions; and (c) complements of any of the sequence of (a) or (b). In certain specific embodiments, such a polypeptide comprises at least a portion, or variant thereof, of a tumor protein that includes an amino acid sequence selected from the group consisting of sequences recited in any one of SEQ ID NO: 112-114, 172, 176, 178, 327, 329, 331, 336, 339, 376-380 and 383.

The present invention further provides polynucleotides that encode a polypeptide as described above, or a portion thereof (such as a portion encoding at least 15 amino acid residues of a prostate tumor protein), expression vectors comprising such polynucleotides and host cells transformed or transfected with such expression vectors.

Within other aspects, the present invention provides pharmaceutical compositions comprising a polypeptide or polynucleotide as described above and a physiologically acceptable carrier.

Within a related aspect of the present invention, vaccines are provided. Such vaccines comprise a polypeptide or polynucleotide as described above and a non-specific immune response enhancer.

The present invention further provides pharmaceutical compositions that comprise: (a) an antibody or antigen-binding fragment thereof that specifically binds to a prostate tumor protein; and (b) a physiologically acceptable carrier.

Within further aspects, the present invention provides pharmaceutical compositions comprising: (a) an antigen presenting cell that expresses a polypeptide as described above and (b) a pharmaceutically acceptable carrier or excipient. Antigen presenting cells include dendritic cells, macrophages, monocytes, fibroblasts and B cells.

Within related aspects, vaccines are provided that comprise: (a) an antigen presenting cell that expresses a polypeptide as described above and (b) a non-specific immune response enhancer.

The present invention further provides, in other aspects, fusion proteins that comprise at least one polypeptide as described above, as well as polynucleotides encoding such fusion proteins.

Within related aspects, pharmaceutical compositions comprising a fusion protein, or a polynucleotide encoding a fusion protein, in combination with a physiologically acceptable carrier are provided.

Vaccines are further provided, within other aspects, that comprise a fusion protein, or a polynucleotide encoding a fusion protein, in combination with a non-specific immune response enhancer.

Within further aspects, the present invention provides methods for inhibiting the development of a cancer in a patient, comprising administering to a patient a pharmaceutical composition or vaccine as recited above.

The present invention further provides, within other aspects, methods for removing tumor cells from a biological sample, comprising contacting a biological sample with T cells that specifically react with a prostate tumor protein, wherein the step of contacting is performed under conditions and for a time sufficient to permit the removal of cells expressing the protein from the sample.

Within related aspects, methods are provided for inhibiting the development of a cancer in a patient, comprising administering to a patient a biological sample treated as described above.

Methods are further provided, within other aspects, for stimulating and/or expanding T cells specific for a prostate tumor protein, comprising contacting T cells with one or more of: (i) a polypeptide as described above; (ii) a polynucleotide encoding such a polypeptide; and/or (iii) an antigen presenting cell that expresses such a polypeptide; under conditions and for a time sufficient to permit the stimulation and/or expansion of T cells. Isolated T cell populations comprising T cells prepared as described above are also provided.

Within further aspects, the present invention provides methods for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a T cell population as described above.

The present invention further provides methods for inhibiting the development of a cancer in a patient, comprising the steps of: (a) incubating CD4⁺ and/or CD8⁺ T cells isolated from a patient with one or more of: (i) a polypeptide comprising at least an immunogenic portion of a prostate tumor protein; (ii) a polynucleotide encoding such a polypeptide; and (iii) an antigen-presenting cell that expressed such a polypeptide; and (b) administering to the patient an effective amount of the proliferated T cells, and thereby inhibiting the development of a cancer in the patient. Proliferated cells may, but need not, be cloned prior to administration to the patient.

Within further aspects, the present invention provides methods for determining the presence or absence of a cancer in a patient, comprising: (a) contacting a biological sample obtained from a patient with a binding agent that binds to a polypeptide as recited above; (b) detecting in the sample an amount of polypeptide that binds to the binding agent; and (c) comparing the amount of polypeptide with a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient. Within preferred embodiments, the binding agent is an antibody, more preferably a monoclonal antibody. The cancer may be prostate cancer.

The present invention also provides, within other aspects, methods for monitoring the progression of a cancer in a patient. Such methods comprise the steps of: (a) contacting a biological sample obtained from a patient at a first point in time with a binding agent that binds to a polypeptide as recited above; (b) detecting in the sample an amount of polypeptide that binds to the binding agent; (c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and (d) comparing the amount of polypeptide detected in step (c) with the amount detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

The present invention further provides, within other aspects, methods for determining the presence or absence of a cancer in a patient, comprising the steps of: (a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a prostate tumor protein; (b) detecting in the sample a level of a polynucleotide, preferably mRNA, that hybridizes to the oligonucleotide; and (c) comparing the level of polynucleotide that hybridizes to the oligonucleotide with a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient. Within certain embodiments, the amount of mRNA is detected via polymerase chain reaction using, for example, at least one oligonucleotide primer that hybridizes to a polynucleotide encoding a polypeptide as recited above, or a complement of such a polynucleotide. Within other embodiments, the amount of mRNA is detected using a hybridization technique, employing an oligonucleotide probe that hybridizes to a polynucleotide that encodes a polypeptide as recited above, or a complement of such a polynucleotide.

In related aspects, methods are provided for monitoring the progression of a cancer in a patient, comprising the steps of: (a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a prostate tumor protein; (b) detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide; (c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and (d) comparing the amount of polynucleotide detected in step (c) with the amount

detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

Within further aspects, the present invention provides antibodies, such as monoclonal antibodies, that bind to a polypeptide as described above, as well as diagnostic kits comprising such antibodies. Diagnostic kits comprising one or more oligonucleotide probes or primers as described above are also provided.

These and other aspects of the present invention will become apparent upon reference to the following detailed description and attached drawings. All references disclosed herein are hereby incorporated by reference in their entirety as if each was incorporated individually.

BRIEF DESCRIPTION OF THE DRAWINGS AND SEQUENCE IDENTIFIERS

Figure 1 illustrates the ability of T cells to kill fibroblasts expressing the representative prostate tumor polypeptide P502S, as compared to control fibroblasts. The percentage lysis is shown as a series of effector:target ratios, as indicated.

Figures 2A and 2B illustrate the ability of T cells to recognize cells expressing the representative prostate tumor polypeptide P502S. In each case, the number of γ -interferon spots is shown for different numbers of responders. In Figure 2A, data is presented for fibroblasts pulsed with the P2S-12 peptide, as compared to fibroblasts pulsed with a control E75 peptide. In Figure 2B, data is presented for fibroblasts expressing P502S, as compared to fibroblasts expressing HER-2/*neu*.

Figure 3 represents a peptide competition binding assay showing that the P1S#10 peptide, derived from P501S, binds HLA-A2. Peptide P1S#10 inhibits HLA-A2 restricted presentation of fluM58 peptide to CTL clone D150M58 in TNF release bioassay. D150M58 CTL is specific for the HLA-A2 binding influenza matrix peptide fluM58.

Figure 4 illustrates the ability of T cell lines generated from P1S#10 immunized mice to specifically lyse P1S#10-pulsed Jurkat A2Kb targets and P501S-transduced Jurkat A2Kb targets, as compared to EGFP-transduced Jurkat A2Kb. The percent lysis is shown as a series of effector to target ratios, as indicated.

Figure 5 illustrates the ability of a T cell clone to recognize and specifically lyse Jurkat A2Kb cells expressing the representative prostate tumor polypeptide P501S, thereby demonstrating that the P1S#10 peptide may be a naturally processed epitope of the P501S polypeptide.

Figures 6A and 6B are graphs illustrating the specificity of a CD8⁺ cell line (3A-1) for a representative prostate tumor antigen (P501S). Figure 6A shows the results of a ⁵¹Cr release assay. The percent specific lysis is shown as a series of effector:target ratios, as indicated. Figure 6B shows the production of interferon-gamma by 3A-1 cells stimulated with autologous B-LCL transduced with P501S, at varying effector:target ratios as indicated.

SEQ ID NO: 1 is the determined cDNA sequence for F1-13

SEQ ID NO: 2 is the determined 3' cDNA sequence for F1-12

SEQ ID NO: 3 is the determined 5' cDNA sequence for F1-12

SEQ ID NO: 4 is the determined 3' cDNA sequence for F1-16

SEQ ID NO: 5 is the determined 3' cDNA sequence for H1-1

SEQ ID NO: 6 is the determined 3' cDNA sequence for H1-9

SEQ ID NO: 7 is the determined 3' cDNA sequence for H1-4

SEQ ID NO: 8 is the determined 3' cDNA sequence for J1-17

SEQ ID NO: 9 is the determined 5' cDNA sequence for J1-17

SEQ ID NO: 10 is the determined 3' cDNA sequence for L1-12

SEQ ID NO: 11 is the determined 5' cDNA sequence for L1-12

SEQ ID NO: 12 is the determined 3' cDNA sequence for N1-1862

SEQ ID NO: 13 is the determined 5' cDNA sequence for N1-1862

SEQ ID NO: 14 is the determined 3' cDNA sequence for J1-13

SEQ ID NO: 15 is the determined 5' cDNA sequence for J1-13

SEQ ID NO: 16 is the determined 3' cDNA sequence for J1-19

SEQ ID NO: 17 is the determined 5' cDNA sequence for J1-19

SEQ ID NO: 18 is the determined 3' cDNA sequence for J1-25

SEQ ID NO: 19 is the determined 5' cDNA sequence for J1-25

SEQ ID NO: 20 is the determined 5' cDNA sequence for J1-24

SEQ ID NO: 21 is the determined 3' cDNA sequence for J1-24
SEQ ID NO: 22 is the determined 5' cDNA sequence for K1-58
SEQ ID NO: 23 is the determined 3' cDNA sequence for K1-58
SEQ ID NO: 24 is the determined 5' cDNA sequence for K1-63
SEQ ID NO: 25 is the determined 3' cDNA sequence for K1-63
SEQ ID NO: 26 is the determined 5' cDNA sequence for L1-4
SEQ ID NO: 27 is the determined 3' cDNA sequence for L1-4
SEQ ID NO: 28 is the determined 5' cDNA sequence for L1-14
SEQ ID NO: 29 is the determined 3' cDNA sequence for L1-14
SEQ ID NO: 30 is the determined 3' cDNA sequence for J1-12
SEQ ID NO: 31 is the determined 3' cDNA sequence for J1-16
SEQ ID NO: 32 is the determined 3' cDNA sequence for J1-21
SEQ ID NO: 33 is the determined 3' cDNA sequence for K1-48
SEQ ID NO: 34 is the determined 3' cDNA sequence for K1-55
SEQ ID NO: 35 is the determined 3' cDNA sequence for L1-2
SEQ ID NO: 36 is the determined 3' cDNA sequence for L1-6
SEQ ID NO: 37 is the determined 3' cDNA sequence for N1-1858
SEQ ID NO: 38 is the determined 3' cDNA sequence for N1-1860
SEQ ID NO: 39 is the determined 3' cDNA sequence for N1-1861
SEQ ID NO: 40 is the determined 3' cDNA sequence for N1-1864
SEQ ID NO: 41 is the determined cDNA sequence for P5
SEQ ID NO: 42 is the determined cDNA sequence for P8
SEQ ID NO: 43 is the determined cDNA sequence for P9
SEQ ID NO: 44 is the determined cDNA sequence for P18
SEQ ID NO: 45 is the determined cDNA sequence for P20
SEQ ID NO: 46 is the determined cDNA sequence for P29
SEQ ID NO: 47 is the determined cDNA sequence for P30
SEQ ID NO: 48 is the determined cDNA sequence for P34
SEQ ID NO: 49 is the determined cDNA sequence for P36
SEQ ID NO: 50 is the determined cDNA sequence for P38

SEQ ID NO: 51 is the determined cDNA sequence for P39
SEQ ID NO: 52 is the determined cDNA sequence for P42
SEQ ID NO: 53 is the determined cDNA sequence for P47
SEQ ID NO: 54 is the determined cDNA sequence for P49
SEQ ID NO: 55 is the determined cDNA sequence for P50
SEQ ID NO: 56 is the determined cDNA sequence for P53
SEQ ID NO: 57 is the determined cDNA sequence for P55
SEQ ID NO: 58 is the determined cDNA sequence for P60
SEQ ID NO: 59 is the determined cDNA sequence for P64
SEQ ID NO: 60 is the determined cDNA sequence for P65
SEQ ID NO: 61 is the determined cDNA sequence for P73
SEQ ID NO: 62 is the determined cDNA sequence for P75
SEQ ID NO: 63 is the determined cDNA sequence for P76
SEQ ID NO: 64 is the determined cDNA sequence for P79
SEQ ID NO: 65 is the determined cDNA sequence for P84
SEQ ID NO: 66 is the determined cDNA sequence for P68
SEQ ID NO: 67 is the determined cDNA sequence for P80
SEQ ID NO: 68 is the determined cDNA sequence for P82
SEQ ID NO: 69 is the determined cDNA sequence for U1-3064
SEQ ID NO: 70 is the determined cDNA sequence for U1-3065
SEQ ID NO: 71 is the determined cDNA sequence for V1-3692
SEQ ID NO: 72 is the determined cDNA sequence for 1A-3905
SEQ ID NO: 73 is the determined cDNA sequence for V1-3686
SEQ ID NO: 74 is the determined cDNA sequence for R1-2330
SEQ ID NO: 75 is the determined cDNA sequence for 1B-3976
SEQ ID NO: 76 is the determined cDNA sequence for V1-3679
SEQ ID NO: 77 is the determined cDNA sequence for 1G-4736
SEQ ID NO: 78 is the determined cDNA sequence for 1G-4738
SEQ ID NO: 79 is the determined cDNA sequence for 1G-4741
SEQ ID NO: 80 is the determined cDNA sequence for 1G-4744

SEQ ID NO: 81 is the determined cDNA sequence for 1G-4734
SEQ ID NO: 82 is the determined cDNA sequence for 1H-4774
SEQ ID NO: 83 is the determined cDNA sequence for 1H-4781
SEQ ID NO: 84 is the determined cDNA sequence for 1H-4785
SEQ ID NO: 85 is the determined cDNA sequence for 1H-4787
SEQ ID NO: 86 is the determined cDNA sequence for 1H-4796
SEQ ID NO: 87 is the determined cDNA sequence for 1I-4807
SEQ ID NO: 88 is the determined cDNA sequence for 1I-4810
SEQ ID NO: 89 is the determined cDNA sequence for 1I-4811
SEQ ID NO: 90 is the determined cDNA sequence for 1J-4876
SEQ ID NO: 91 is the determined cDNA sequence for 1K-4884
SEQ ID NO: 92 is the determined cDNA sequence for 1K-4896
SEQ ID NO: 93 is the determined cDNA sequence for 1G-4761
SEQ ID NO: 94 is the determined cDNA sequence for 1G-4762
SEQ ID NO: 95 is the determined cDNA sequence for 1H-4766
SEQ ID NO: 96 is the determined cDNA sequence for 1H-4770
SEQ ID NO: 97 is the determined cDNA sequence for 1H-4771
SEQ ID NO: 98 is the determined cDNA sequence for 1H-4772
SEQ ID NO: 99 is the determined cDNA sequence for 1D-4297
SEQ ID NO: 100 is the determined cDNA sequence for 1D-4309
SEQ ID NO: 101 is the determined cDNA sequence for 1D.1-4278
SEQ ID NO: 102 is the determined cDNA sequence for 1D-4288
SEQ ID NO: 103 is the determined cDNA sequence for 1D-4283
SEQ ID NO: 104 is the determined cDNA sequence for 1D-4304
SEQ ID NO: 105 is the determined cDNA sequence for 1D-4296
SEQ ID NO: 106 is the determined cDNA sequence for 1D-4280
SEQ ID NO: 107 is the determined full length cDNA sequence for F1-12 (also referred to as P504S)
SEQ ID NO: 108 is the predicted amino acid sequence for F1-12
SEQ ID NO: 109 is the determined full length cDNA sequence for J1-17

SEQ ID NO: 110 is the determined full length cDNA sequence for L1-12
SEQ ID NO: 111 is the determined full length cDNA sequence for N1-1862
SEQ ID NO: 112 is the predicted amino acid sequence for J1-17
SEQ ID NO: 113 is the predicted amino acid sequence for L1-12
SEQ ID NO: 114 is the predicted amino acid sequence for N1-1862
SEQ ID NO: 115 is the determined cDNA sequence for P89
SEQ ID NO: 116 is the determined cDNA sequence for P90
SEQ ID NO: 117 is the determined cDNA sequence for P92
SEQ ID NO: 118 is the determined cDNA sequence for P95
SEQ ID NO: 119 is the determined cDNA sequence for P98
SEQ ID NO: 120 is the determined cDNA sequence for P102
SEQ ID NO: 121 is the determined cDNA sequence for P110
SEQ ID NO: 122 is the determined cDNA sequence for P111
SEQ ID NO: 123 is the determined cDNA sequence for P114
SEQ ID NO: 124 is the determined cDNA sequence for P115
SEQ ID NO: 125 is the determined cDNA sequence for P116
SEQ ID NO: 126 is the determined cDNA sequence for P124
SEQ ID NO: 127 is the determined cDNA sequence for P126
SEQ ID NO: 128 is the determined cDNA sequence for P130
SEQ ID NO: 129 is the determined cDNA sequence for P133
SEQ ID NO: 130 is the determined cDNA sequence for P138
SEQ ID NO: 131 is the determined cDNA sequence for P143
SEQ ID NO: 132 is the determined cDNA sequence for P151
SEQ ID NO: 133 is the determined cDNA sequence for P156
SEQ ID NO: 134 is the determined cDNA sequence for P157
SEQ ID NO: 135 is the determined cDNA sequence for P166
SEQ ID NO: 136 is the determined cDNA sequence for P176
SEQ ID NO: 137 is the determined cDNA sequence for P178
SEQ ID NO: 138 is the determined cDNA sequence for P179
SEQ ID NO: 139 is the determined cDNA sequence for P185

SEQ ID NO: 140 is the determined cDNA sequence for P192
SEQ ID NO: 141 is the determined cDNA sequence for P201
SEQ ID NO: 142 is the determined cDNA sequence for P204
SEQ ID NO: 143 is the determined cDNA sequence for P208
SEQ ID NO: 144 is the determined cDNA sequence for P211
SEQ ID NO: 145 is the determined cDNA sequence for P213
SEQ ID NO: 146 is the determined cDNA sequence for P219
SEQ ID NO: 147 is the determined cDNA sequence for P237
SEQ ID NO: 148 is the determined cDNA sequence for P239
SEQ ID NO: 149 is the determined cDNA sequence for P248
SEQ ID NO: 150 is the determined cDNA sequence for P251
SEQ ID NO: 151 is the determined cDNA sequence for P255
SEQ ID NO: 152 is the determined cDNA sequence for P256
SEQ ID NO: 153 is the determined cDNA sequence for P259
SEQ ID NO: 154 is the determined cDNA sequence for P260
SEQ ID NO: 155 is the determined cDNA sequence for P263
SEQ ID NO: 156 is the determined cDNA sequence for P264
SEQ ID NO: 157 is the determined cDNA sequence for P266
SEQ ID NO: 158 is the determined cDNA sequence for P270
SEQ ID NO: 159 is the determined cDNA sequence for P272
SEQ ID NO: 160 is the determined cDNA sequence for P278
SEQ ID NO: 161 is the determined cDNA sequence for P105
SEQ ID NO: 162 is the determined cDNA sequence for P107
SEQ ID NO: 163 is the determined cDNA sequence for P137
SEQ ID NO: 164 is the determined cDNA sequence for P194
SEQ ID NO: 165 is the determined cDNA sequence for P195
SEQ ID NO: 166 is the determined cDNA sequence for P196
SEQ ID NO: 167 is the determined cDNA sequence for P220
SEQ ID NO: 168 is the determined cDNA sequence for P234
SEQ ID NO: 169 is the determined cDNA sequence for P235

SEQ ID NO: 170 is the determined cDNA sequence for P243
SEQ ID NO: 171 is the determined cDNA sequence for P703P-DE1
SEQ ID NO: 172 is the predicted amino acid sequence for P703P-DE1
SEQ ID NO: 173 is the determined cDNA sequence for P703P-DE2
SEQ ID NO: 174 is the determined cDNA sequence for P703P-DE6
SEQ ID NO: 175 is the determined cDNA sequence for P703P-DE13
SEQ ID NO: 176 is the predicted amino acid sequence for P703P-DE13
SEQ ID NO: 177 is the determined cDNA sequence for P703P-DE14
SEQ ID NO: 178 is the predicted amino acid sequence for P703P-DE14
SEQ ID NO: 179 is the determined extended cDNA sequence for 1G-4736
SEQ ID NO: 180 is the determined extended cDNA sequence for 1G-4738
SEQ ID NO: 181 is the determined extended cDNA sequence for 1G-4741
SEQ ID NO: 182 is the determined extended cDNA sequence for 1G-4744
SEQ ID NO: 183 is the determined extended cDNA sequence for 1H-4774
SEQ ID NO: 184 is the determined extended cDNA sequence for 1H-4781
SEQ ID NO: 185 is the determined extended cDNA sequence for 1H-4785
SEQ ID NO: 186 is the determined extended cDNA sequence for 1H-4787
SEQ ID NO: 187 is the determined extended cDNA sequence for 1H-4796
SEQ ID NO: 188 is the determined extended cDNA sequence for 1I-4807
SEQ ID NO: 189 is the determined 3' cDNA sequence for 1I-4810
SEQ ID NO: 190 is the determined 3' cDNA sequence for 1I-4811
SEQ ID NO: 191 is the determined extended cDNA sequence for 1J-4876
SEQ ID NO: 192 is the determined extended cDNA sequence for 1K-4884
SEQ ID NO: 193 is the determined extended cDNA sequence for 1K-4896
SEQ ID NO: 194 is the determined extended cDNA sequence for 1G-4761
SEQ ID NO: 195 is the determined extended cDNA sequence for 1G-4762
SEQ ID NO: 196 is the determined extended cDNA sequence for 1H-4766
SEQ ID NO: 197 is the determined 3' cDNA sequence for 1H-4770

SEQ ID NO: 198 is the determined 3' cDNA sequence for 1H-4771

SEQ ID NO: 199 is the determined extended cDNA sequence for 1H-4772
SEQ ID NO: 200 is the determined extended cDNA sequence for 1D-4309
SEQ ID NO: 201 is the determined extended cDNA sequence for 1D.1-4278
SEQ ID NO: 202 is the determined extended cDNA sequence for 1D-4288
SEQ ID NO: 203 is the determined extended cDNA sequence for 1D-4283
SEQ ID NO: 204 is the determined extended cDNA sequence for 1D-4304
SEQ ID NO: 205 is the determined extended cDNA sequence for 1D-4296
SEQ ID NO: 206 is the determined extended cDNA sequence for 1D-4280
SEQ ID NO: 207 is the determined cDNA sequence for 10-d8fwd
SEQ ID NO: 208 is the determined cDNA sequence for 10-H10con
SEQ ID NO: 209 is the determined cDNA sequence for 11-C8rev
SEQ ID NO: 210 is the determined cDNA sequence for 7.g6fwd
SEQ ID NO: 211 is the determined cDNA sequence for 7.g6rev
SEQ ID NO: 212 is the determined cDNA sequence for 8-b5fwd
SEQ ID NO: 213 is the determined cDNA sequence for 8-b5rev
SEQ ID NO: 214 is the determined cDNA sequence for 8-b6fwd
SEQ ID NO: 215 is the determined cDNA sequence for 8-b6 rev
SEQ ID NO: 216 is the determined cDNA sequence for 8-d4fwd
SEQ ID NO: 217 is the determined cDNA sequence for 8-d9rev
SEQ ID NO: 218 is the determined cDNA sequence for 8-g3fwd
SEQ ID NO: 219 is the determined cDNA sequence for 8-g3rev
SEQ ID NO: 220 is the determined cDNA sequence for 8-h11rev
SEQ ID NO: 221 is the determined cDNA sequence for g-f12fwd
SEQ ID NO: 222 is the determined cDNA sequence for g-f3rev
SEQ ID NO: 223 is the determined cDNA sequence for P509S
SEQ ID NO: 224 is the determined cDNA sequence for P510S
SEQ ID NO: 225 is the determined cDNA sequence for P703DE5
SEQ ID NO: 226 is the determined cDNA sequence for 9-A11
SEQ ID NO: 227 is the determined cDNA sequence for 8-C6
SEQ ID NO: 228 is the determined cDNA sequence for 8-H7

SEQ ID NO: 229 is the determined cDNA sequence for JPTPN13
SEQ ID NO: 230 is the determined cDNA sequence for JPTPN14
SEQ ID NO: 231 is the determined cDNA sequence for JPTPN23
SEQ ID NO: 232 is the determined cDNA sequence for JPTPN24
SEQ ID NO: 233 is the determined cDNA sequence for JPTPN25
SEQ ID NO: 234 is the determined cDNA sequence for JPTPN30
SEQ ID NO: 235 is the determined cDNA sequence for JPTPN34
SEQ ID NO: 236 is the determined cDNA sequence for PTPN35
SEQ ID NO: 237 is the determined cDNA sequence for JPTPN36
SEQ ID NO: 238 is the determined cDNA sequence for JPTPN38
SEQ ID NO: 239 is the determined cDNA sequence for JPTPN39
SEQ ID NO: 240 is the determined cDNA sequence for JPTPN40
SEQ ID NO: 241 is the determined cDNA sequence for JPTPN41
SEQ ID NO: 242 is the determined cDNA sequence for JPTPN42
SEQ ID NO: 243 is the determined cDNA sequence for JPTPN45
SEQ ID NO: 244 is the determined cDNA sequence for JPTPN46
SEQ ID NO: 245 is the determined cDNA sequence for JPTPN51
SEQ ID NO: 246 is the determined cDNA sequence for JPTPN56
SEQ ID NO: 247 is the determined cDNA sequence for PTPN64
SEQ ID NO: 248 is the determined cDNA sequence for JPTPN65
SEQ ID NO: 249 is the determined cDNA sequence for JPTPN67
SEQ ID NO: 250 is the determined cDNA sequence for JPTPN76
SEQ ID NO: 251 is the determined cDNA sequence for JPTPN84
SEQ ID NO: 252 is the determined cDNA sequence for JPTPN85
SEQ ID NO: 253 is the determined cDNA sequence for JPTPN86
SEQ ID NO: 254 is the determined cDNA sequence for JPTPN87
SEQ ID NO: 255 is the determined cDNA sequence for JPTPN88
SEQ ID NO: 256 is the determined cDNA sequence for JP1F1
SEQ ID NO: 257 is the determined cDNA sequence for JP1F2
SEQ ID NO: 258 is the determined cDNA sequence for JP1C2

SEQ ID NO: 259 is the determined cDNA sequence for JP1B1
SEQ ID NO: 260 is the determined cDNA sequence for JP1B2
SEQ ID NO: 261 is the determined cDNA sequence for JP1D3
SEQ ID NO: 262 is the determined cDNA sequence for JP1A4
SEQ ID NO: 263 is the determined cDNA sequence for JP1F5
SEQ ID NO: 264 is the determined cDNA sequence for JP1E6
SEQ ID NO: 265 is the determined cDNA sequence for JP1D6
SEQ ID NO: 266 is the determined cDNA sequence for JP1B5
SEQ ID NO: 267 is the determined cDNA sequence for JP1A6
SEQ ID NO: 268 is the determined cDNA sequence for JP1E8
SEQ ID NO: 269 is the determined cDNA sequence for JP1D7
SEQ ID NO: 270 is the determined cDNA sequence for JP1D9
SEQ ID NO: 271 is the determined cDNA sequence for JP1C10
SEQ ID NO: 272 is the determined cDNA sequence for JP1A9
SEQ ID NO: 273 is the determined cDNA sequence for JP1F12
SEQ ID NO: 274 is the determined cDNA sequence for JP1E12
SEQ ID NO: 275 is the determined cDNA sequence for JP1D11
SEQ ID NO: 276 is the determined cDNA sequence for JP1C11
SEQ ID NO: 277 is the determined cDNA sequence for JP1C12
SEQ ID NO: 278 is the determined cDNA sequence for JP1B12
SEQ ID NO: 279 is the determined cDNA sequence for JP1A12
SEQ ID NO: 280 is the determined cDNA sequence for JP8G2
SEQ ID NO: 281 is the determined cDNA sequence for JP8H1
SEQ ID NO: 282 is the determined cDNA sequence for JP8H2
SEQ ID NO: 283 is the determined cDNA sequence for JP8A3
SEQ ID NO: 284 is the determined cDNA sequence for JP8A4
SEQ ID NO: 285 is the determined cDNA sequence for JP8C3
SEQ ID NO: 286 is the determined cDNA sequence for JP8G4
SEQ ID NO: 287 is the determined cDNA sequence for JP8B6
SEQ ID NO: 288 is the determined cDNA sequence for JP8D6

SEQ ID NO: 289 is the determined cDNA sequence for JP8F5
SEQ ID NO: 290 is the determined cDNA sequence for JP8A8
SEQ ID NO: 291 is the determined cDNA sequence for JP8C7
SEQ ID NO: 292 is the determined cDNA sequence for JP8D7
SEQ ID NO: 293 is the determined cDNA sequence for P8D8
SEQ ID NO: 294 is the determined cDNA sequence for JP8E7
SEQ ID NO: 295 is the determined cDNA sequence for JP8F8
SEQ ID NO: 296 is the determined cDNA sequence for JP8G8
SEQ ID NO: 297 is the determined cDNA sequence for JP8B10
SEQ ID NO: 298 is the determined cDNA sequence for JP8C10
SEQ ID NO: 299 is the determined cDNA sequence for JP8E9
SEQ ID NO: 300 is the determined cDNA sequence for JP8E10
SEQ ID NO: 301 is the determined cDNA sequence for JP8F9
SEQ ID NO: 302 is the determined cDNA sequence for JP8H9
SEQ ID NO: 303 is the determined cDNA sequence for JP8C12
SEQ ID NO: 304 is the determined cDNA sequence for JP8E11
SEQ ID NO: 305 is the determined cDNA sequence for JP8E12
SEQ ID NO: 306 is the amino acid sequence for the peptide PS2#12
SEQ ID NO: 307 is the determined cDNA sequence for P711P
SEQ ID NO: 308 is the determined cDNA sequence for P712P
SEQ ID NO: 309 is the determined cDNA sequence for CLONE23
SEQ ID NO: 310 is the determined cDNA sequence for P774P
SEQ ID NO: 311 is the determined cDNA sequence for P775P
SEQ ID NO: 312 is the determined cDNA sequence for P715P
SEQ ID NO: 313 is the determined cDNA sequence for P710P
SEQ ID NO: 314 is the determined cDNA sequence for P767P
SEQ ID NO: 315 is the determined cDNA sequence for P768P
SEQ ID NO: 316-325 are the determined cDNA sequences of previously isolated genes
SEQ ID NO: 326 is the determined cDNA sequence for P703PDE5
SEQ ID NO: 327 is the predicted amino acid sequence for P703PDE5

SEQ ID NO: 328 is the determined cDNA sequence for P703P6.26
SEQ ID NO: 329 is the predicted amino acid sequence for P703P6.26
SEQ ID NO: 330 is the determined cDNA sequence for P703PX-23
SEQ ID NO: 331 is the predicted amino acid sequence for P703PX-23
SEQ ID NO: 332 is the determined full length cDNA sequence for P509S
SEQ ID NO: 333 is the determined extended cDNA sequence for P707P (also referred to as 11-C9)
SEQ ID NO: 334 is the determined cDNA sequence for P714P
SEQ ID NO: 335 is the determined cDNA sequence for P705P (also referred to as 9-F3)
SEQ ID NO: 336 is the predicted amino acid sequence for P705P
SEQ ID NO: 337 is the amino acid sequence of the peptide P1S#10
SEQ ID NO: 338 is the amino acid sequence of the peptide p5
SEQ ID NO: 339 is the predicted amino acid sequence of P509S
SEQ ID NO: 340 is the determined cDNA sequence for P778P
SEQ ID NO: 341 is the determined cDNA sequence for P786P
SEQ ID NO: 342 is the determined cDNA sequence for P789P
SEQ ID NO: 343 is the determined cDNA sequence for a clone showing homology to Homo sapiens MM46 mRNA
SEQ ID NO: 344 is the determined cDNA sequence for a clone showing homology to Homo sapiens TNF-alpha stimulated ABC protein (ABC50) mRNA
SEQ ID NO: 345 is the determined cDNA sequence for a clone showing homology to Homo sapiens mRNA for E-cadherin
SEQ ID NO: 346 is the determined cDNA sequence for a clone showing homology to Human nuclear-encoded mitochondrial serine hydroxymethyltransferase (SHMT)
SEQ ID NO: 347 is the determined cDNA sequence for a clone showing homology to Homo sapiens natural resistance-associated macrophage protein2 (NRAMP2)
SEQ ID NO: 348 is the determined cDNA sequence for a clone showing homology to Homo sapiens phosphoglucomutase-related protein (PGMRP)

SEQ ID NO: 349 is the determined cDNA sequence for a clone showing homology to Human mRNA for proteosome subunit p40

SEQ ID NO: 350 is the determined cDNA sequence for P777P

SEQ ID NO: 351 is the determined cDNA sequence for P779P

SEQ ID NO: 352 is the determined cDNA sequence for P790P

SEQ ID NO: 353 is the determined cDNA sequence for P784P

SEQ ID NO: 354 is the determined cDNA sequence for P776P

SEQ ID NO: 355 is the determined cDNA sequence for P780P

SEQ ID NO: 356 is the determined cDNA sequence for P544S

SEQ ID NO: 357 is the determined cDNA sequence for P745S

SEQ ID NO: 358 is the determined cDNA sequence for P782P

SEQ ID NO: 359 is the determined cDNA sequence for P783P

SEQ ID NO: 360 is the determined cDNA sequence for unknown 17984

SEQ ID NO: 361 is the determined cDNA sequence for P787P

SEQ ID NO: 362 is the determined cDNA sequence for P788P

SEQ ID NO: 363 is the determined cDNA sequence for unknown 17994

SEQ ID NO: 364 is the determined cDNA sequence for P781P

SEQ ID NO: 365 is the determined cDNA sequence for P785P

SEQ ID NO: 366-375 are the determined cDNA sequences for splice variants of B305D.

SEQ ID NO: 376 is the predicted amino acid sequence encoded by the sequence of SEQ ID NO: 366.

SEQ ID NO: 377 is the predicted amino acid sequence encoded by the sequence of SEQ ID NO: 372.

SEQ ID NO: 378 is the predicted amino acid sequence encoded by the sequence of SEQ ID NO: 373.

SEQ ID NO: 379 is the predicted amino acid sequence encoded by the sequence of SEQ ID NO: 374.

SEQ ID NO: 380 is the predicted amino acid sequence encoded by the sequence of SEQ ID NO: 375.

SEQ ID NO: 381 is the determined cDNA sequence for B716P.
SEQ ID NO: 382 is the determined full-length cDNA sequence for P711P.
SEQ ID NO: 383 is the predicted amino acid sequence for P711P.
SEQ ID NO: 384 is the cDNA sequence for P1000C.
SEQ ID NO: 385 is the cDNA sequence for CGI-82.
SEQ ID NO: 386 is the cDNA sequence for 23320.
SEQ ID NO: 387 is the cDNA sequence for CGI-69.
SEQ ID NO: 388 is the cDNA sequence for L-iditol-2-dehydrogenase.
SEQ ID NO: 389 is the cDNA sequence for 23379.
SEQ ID NO: 390 is the cDNA sequence for 23381.
SEQ ID NO: 391 is the cDNA sequence for KIAA0122.
SEQ ID NO: 392 is the cDNA sequence for 23399.
SEQ ID NO: 393 is the cDNA sequence for a previously identified gene.
SEQ ID NO: 394 is the cDNA sequence for HCLBP.
SEQ ID NO: 395 is the cDNA sequence for transglutaminase.
SEQ ID NO: 396 is the cDNA sequence for a previously identified gene.
SEQ ID NO: 397 is the cDNA sequence for PAP.
SEQ ID NO: 398 is the cDNA sequence for Ets transcription factor PDEF.
SEQ ID NO: 399 is the cDNA sequence for hTGR.
SEQ ID NO: 400 is the cDNA sequence for KIAA0295.
SEQ ID NO: 401 is the cDNA sequence for 22545.
SEQ ID NO: 402 is the cDNA sequence for 22547.
SEQ ID NO: 403 is the cDNA sequence for 22548.
SEQ ID NO: 404 is the cDNA sequence for 22550.
SEQ ID NO: 405 is the cDNA sequence for 22551.
SEQ ID NO: 406 is the cDNA sequence for 22552.
SEQ ID NO: 407 is the cDNA sequence for 22553.
SEQ ID NO: 408 is the cDNA sequence for 22558.
SEQ ID NO: 409 is the cDNA sequence for 22562.
SEQ ID NO: 410 is the cDNA sequence for 22565.

SEQ ID NO:411 is the cDNA sequence for 22567.
SEQ ID NO:412 is the cDNA sequence for 22568.
SEQ ID NO:413 is the cDNA sequence for 22570.
SEQ ID NO:414 is the cDNA sequence for 22571.
SEQ ID NO:415 is the cDNA sequence for 22572.
SEQ ID NO:416 is the cDNA sequence for 22573.
SEQ ID NO:417 is the cDNA sequence for 22573.
SEQ ID NO:418 is the cDNA sequence for 22575.
SEQ ID NO:419 is the cDNA sequence for 22580.
SEQ ID NO:420 is the cDNA sequence for 22581.
SEQ ID NO:421 is the cDNA sequence for 22582.
SEQ ID NO:422 is the cDNA sequence for 22583.
SEQ ID NO:423 is the cDNA sequence for 22584.
SEQ ID NO:424 is the cDNA sequence for 22585.
SEQ ID NO:425 is the cDNA sequence for 22586.
SEQ ID NO:426 is the cDNA sequence for 22587.
SEQ ID NO:427 is the cDNA sequence for 22588.
SEQ ID NO:428 is the cDNA sequence for 22589.
SEQ ID NO:429 is the cDNA sequence for 22590.
SEQ ID NO:430 is the cDNA sequence for 22591.
SEQ ID NO:431 is the cDNA sequence for 22592.
SEQ ID NO:432 is the cDNA sequence for 22593.
SEQ ID NO:433 is the cDNA sequence for 22594.
SEQ ID NO:434 is the cDNA sequence for 22595.
SEQ ID NO:435 is the cDNA sequence for 22596.
SEQ ID NO:436 is the cDNA sequence for 22847.
SEQ ID NO:437 is the cDNA sequence for 22848.
SEQ ID NO:438 is the cDNA sequence for 22849.
SEQ ID NO:439 is the cDNA sequence for 22851.
SEQ ID NO:440 is the cDNA sequence for 22852.

SEQ ID NO:441 is the cDNA sequence for 22853.
SEQ ID NO:442 is the cDNA sequence for 22854.
SEQ ID NO:443 is the cDNA sequence for 22855.
SEQ ID NO:444 is the cDNA sequence for 22856.
SEQ ID NO:445 is the cDNA sequence for 22857.
SEQ ID NO:446 is the cDNA sequence for 23601.
SEQ ID NO:447 is the cDNA sequence for 23602.
SEQ ID NO:448 is the cDNA sequence for 23605.
SEQ ID NO:449 is the cDNA sequence for 23606.
SEQ ID NO:450 is the cDNA sequence for 23612.
SEQ ID NO:451 is the cDNA sequence for 23614.
SEQ ID NO:452 is the cDNA sequence for 23618.
SEQ ID NO:453 is the cDNA sequence for 23622.
SEQ ID NO:454 is the cDNA sequence for folate hydrolase.
SEQ ID NO:455 is the cDNA sequence for LIM protein.
SEQ ID NO:456 is the cDNA sequence for a known gene.
SEQ ID NO:457 is the cDNA sequence for a known gene.
SEQ ID NO:458 is the cDNA sequence for a previously identified gene.
SEQ ID NO:459 is the cDNA sequence for 23045.
SEQ ID NO:460 is the cDNA sequence for 23032.
SEQ ID NO:461 is the cDNA sequence for 23054.
SEQ ID NOs:462-467 are cDNA sequences for known genes.
SEQ ID NOs:468-471 are cDNA sequences for P710P.
SEQ ID NO:472 is a cDNA sequence for P1001C.
SEQ ID NO:473 is the amino acid sequence for PSMA.
SEQ ID NO:474 is the amino acid sequence for PAP.
SEQ ID NO:475 is the amino acid sequence for PSA.
SEQ ID NO:476 is the amino acid sequence for a fusion protein containing PSA, P703P and P501S.

DETAILED DESCRIPTION OF THE INVENTION

As noted above, the present invention is generally directed to compositions and methods for the therapy and diagnosis of cancer, such as prostate cancer. The compositions described herein may include prostate tumor polypeptides, polynucleotides encoding such polypeptides, binding agents such as antibodies, antigen presenting cells (APCs) and/or immune system cells (*e.g.*, T cells). Polypeptides of the present invention generally comprise at least a portion (such as an immunogenic portion) of a prostate tumor protein or a variant thereof. A "prostate tumor protein" is a protein that is expressed in prostate tumor cells at a level that is at least two fold, and preferably at least five fold, greater than the level of expression in a normal tissue, as determined using a representative assay provided herein. Certain prostate tumor proteins are tumor proteins that react detectably (within an immunoassay, such as an ELISA or Western blot) with antisera of a patient afflicted with prostate cancer. Polynucleotides of the subject invention generally comprise a DNA or RNA sequence that encodes all or a portion of such a polypeptide, or that is complementary to such a sequence. Antibodies are generally immune system proteins, or antigen-binding fragments thereof, that are capable of binding to a polypeptide as described above. Antigen presenting cells include dendritic cells, macrophages, monocytes, fibroblasts and B-cells that express a polypeptide as described above. T cells that may be employed within such compositions are generally T cells that are specific for a polypeptide as described above.

The present invention is based on the discovery of human prostate tumor proteins. Sequences of polynucleotides encoding certain tumor proteins, or portions thereof, are provided in SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472. Sequences of polypeptides comprising at least a portion of a tumor protein are provided in SEQ ID NOs:112-114, 172, 176, 178, 327, 329, 331, 336, 339, 376-380 and 383.

PROSTATE TUMOR PROTEIN POLYNUCLEOTIDES

Any polynucleotide that encodes a prostate tumor protein or a portion or other variant thereof as described herein is encompassed by the present invention. Preferred polynucleotides comprise at least 15 consecutive nucleotides, preferably at least 30 consecutive nucleotides and more preferably at least 45 consecutive nucleotides, that encode a portion of a prostate tumor protein. More preferably, a polynucleotide encodes an immunogenic portion of a prostate tumor protein. Polynucleotides complementary to any such sequences are also encompassed by the present invention. Polynucleotides may be single-stranded (coding or antisense) or double-stranded, and may be DNA (genomic, cDNA or synthetic) or RNA molecules. RNA molecules include HnRNA molecules, which contain introns and correspond to a DNA molecule in a one-to-one manner, and mRNA molecules, which do not contain introns. Additional coding or non-coding sequences may, but need not, be present within a polynucleotide of the present invention, and a polynucleotide may, but need not, be linked to other molecules and/or support materials.

Polynucleotides may comprise a native sequence (*i.e.*, an endogenous sequence that encodes a prostate tumor protein or a portion thereof) or may comprise a variant of such a sequence. Polynucleotide variants may contain one or more substitutions, additions, deletions and/or insertions such that the immunogenicity of the encoded polypeptide is not diminished, relative to a native tumor protein. The effect on the immunogenicity of the encoded polypeptide may generally be assessed as described herein. Variants preferably exhibit at least about 70% identity, more preferably at least about 80% identity and most preferably at least about 90% identity to a polynucleotide sequence that encodes a native prostate tumor protein or a portion thereof.

Two polynucleotide or polypeptide sequences are said to be "identical" if the sequence of nucleotides or amino acids in the two sequences is the same when aligned for maximum correspondence as described below. Comparisons between two sequences are typically performed by comparing the sequences over a comparison window to identify and compare local regions of sequence similarity. A "comparison window" as used herein, refers to a segment of at least about 20 contiguous positions,

usually 30 to about 75, 40 to about 50, in which a sequence may be compared to a reference sequence of the same number of contiguous positions after the two sequences are optimally aligned.

Optimal alignment of sequences for comparison may be conducted using the Megalign program in the Lasergene suite of bioinformatics software (DNASTAR, Inc., Madison, WI), using default parameters. This program embodies several alignment schemes described in the following references: Dayhoff, M.O. (1978) A model of evolutionary change in proteins – Matrices for detecting distant relationships. In Dayhoff, M.O. (ed.) *Atlas of Protein Sequence and Structure*, National Biomedical Research Foundation, Washington DC Vol. 5, Suppl. 3, pp. 345-358; Hein J. (1990) *Unified Approach to Alignment and Phylogenies* pp. 626-645 *Methods in Enzymology* vol. 183, Academic Press, Inc., San Diego, CA; Higgins, D.G. and Sharp, P.M. (1989) *CABIOS* 5:151-153; Myers, E.W. and Muller W. (1988) *CABIOS* 4:11-17; Robinson, E.D. (1971) *Comb. Theor* 11:105; Santou, N. Nes, M. (1987) *Mol. Biol. Evol.* 4:406-425; Sneath, P.H.A. and Sokal, R.R. (1973) *Numerical Taxonomy – the Principles and Practice of Numerical Taxonomy*, Freeman Press, San Francisco, CA; Wilbur, W.J. and Lipman, D.J. (1983) *Proc. Natl. Acad., Sci. USA* 80:726-730.

Preferably, the “percentage of sequence identity” is determined by comparing two optimally aligned sequences over a window of comparison of at least 20 positions, wherein the portion of the polynucleotide or polypeptide sequence in the comparison window may comprise additions or deletions (*i.e.*, gaps) of 20 percent or less, usually 5 to 15 percent, or 10 to 12 percent, as compared to the reference sequences (which does not comprise additions or deletions) for optimal alignment of the two sequences. The percentage is calculated by determining the number of positions at which the identical nucleic acid bases or amino acid residue occurs in both sequences to yield the number of matched positions, dividing the number of matched positions by the total number of positions in the reference sequence (*i.e.*, the window size) and multiplying the results by 100 to yield the percentage of sequence identity.

Variants may also, or alternatively, be substantially homologous to a native gene, or a portion or complement thereof. Such polynucleotide variants are

capable of hybridizing under moderately stringent conditions to a naturally occurring DNA sequence encoding a native prostate tumor protein (or a complementary sequence). Suitable moderately stringent conditions include prewashing in a solution of 5 X SSC, 0.5% SDS, 1.0 mM EDTA (pH 8.0); hybridizing at 50°C-65°C, 5 X SSC, overnight; followed by washing twice at 65°C for 20 minutes with each of 2X, 0.5X and 0.2X SSC containing 0.1% SDS.

It will be appreciated by those of ordinary skill in the art that, as a result of the degeneracy of the genetic code, there are many nucleotide sequences that encode a polypeptide as described herein. Some of these polynucleotides bear minimal homology to the nucleotide sequence of any native gene. Nonetheless, polynucleotides that vary due to differences in codon usage are specifically contemplated by the present invention. Further, alleles of the genes comprising the polynucleotide sequences provided herein are within the scope of the present invention. Alleles are endogenous genes that are altered as a result of one or more mutations, such as deletions, additions and/or substitutions of nucleotides. The resulting mRNA and protein may, but need not, have an altered structure or function. Alleles may be identified using standard techniques (such as hybridization, amplification and/or database sequence comparison).

Polynucleotides may be prepared using any of a variety of techniques. For example, a polynucleotide may be identified, as described in more detail below, by screening a microarray of cDNAs for tumor-associated expression (*i.e.*, expression that is at least five fold greater in a prostate tumor than in normal tissue, as determined using a representative assay provided herein). Such screens may be performed using a Synteni microarray (Palo Alto, CA) according to the manufacturer's instructions (and essentially as described by Schena et al., *Proc. Natl. Acad. Sci. USA* 93:10614-10619, 1996 and Heller et al., *Proc. Natl. Acad. Sci. USA* 94:2150-2155, 1997). Alternatively, polypeptides may be amplified from cDNA prepared from cells expressing the proteins described herein, such as prostate tumor cells. Such polynucleotides may be amplified via polymerase chain reaction (PCR). For this approach, sequence-specific primers may be designed based on the sequences provided herein, and may be purchased or synthesized.

An amplified portion may be used to isolate a full length gene from a suitable library (*e.g.*, a prostate tumor cDNA library) using well known techniques. Within such techniques, a library (cDNA or genomic) is screened using one or more polynucleotide probes or primers suitable for amplification. Preferably, a library is size-selected to include larger molecules. Random primed libraries may also be preferred for identifying 5' and upstream regions of genes. Genomic libraries are preferred for obtaining introns and extending 5' sequences.

For hybridization techniques, a partial sequence may be labeled (*e.g.*, by nick-translation or end-labeling with ^{32}P) using well known techniques. A bacterial or bacteriophage library is then screened by hybridizing filters containing denatured bacterial colonies (or lawns containing phage plaques) with the labeled probe (*see* Sambrook et al., *Molecular Cloning: A Laboratory Manual*, Cold Spring Harbor Laboratories, Cold Spring Harbor, NY, 1989). Hybridizing colonies or plaques are selected and expanded, and the DNA is isolated for further analysis. cDNA clones may be analyzed to determine the amount of additional sequence by, for example, PCR using a primer from the partial sequence and a primer from the vector. Restriction maps and partial sequences may be generated to identify one or more overlapping clones. The complete sequence may then be determined using standard techniques, which may involve generating a series of deletion clones. The resulting overlapping sequences are then assembled into a single contiguous sequence. A full length cDNA molecule can be generated by ligating suitable fragments, using well known techniques.

Alternatively, there are numerous amplification techniques for obtaining a full length coding sequence from a partial cDNA sequence. Within such techniques, amplification is generally performed via PCR. Any of a variety of commercially available kits may be used to perform the amplification step. Primers may be designed using, for example, software well known in the art. Primers are preferably 22-30 nucleotides in length, have a GC content of at least 50% and anneal to the target sequence at temperatures of about 68°C to 72°C. The amplified region may be sequenced as described above, and overlapping sequences assembled into a contiguous sequence.

One such amplification technique is inverse PCR (*see* Triglia et al., *Nucl. Acids Res.* 16:8186, 1988), which uses restriction enzymes to generate a fragment in the known region of the gene. The fragment is then circularized by intramolecular ligation and used as a template for PCR with divergent primers derived from the known region. Within an alternative approach, sequences adjacent to a partial sequence may be retrieved by amplification with a primer to a linker sequence and a primer specific to a known region. The amplified sequences are typically subjected to a second round of amplification with the same linker primer and a second primer specific to the known region. A variation on this procedure, which employs two primers that initiate extension in opposite directions from the known sequence, is described in WO 96/38591. Another such technique is known as "rapid amplification of cDNA ends" or RACE. This technique involves the use of an internal primer and an external primer, which hybridizes to a polyA region or vector sequence, to identify sequences that are 5' and 3' of a known sequence. Additional techniques include capture PCR (Lagerstrom et al., *PCR Methods Applic.* 1:111-19, 1991) and walking PCR (Parker et al., *Nucl. Acids Res.* 19:3055-60, 1991). Other methods employing amplification may also be employed to obtain a full length cDNA sequence.

In certain instances, it is possible to obtain a full length cDNA sequence by analysis of sequences provided in an expressed sequence tag (EST) database, such as that available from GenBank. Searches for overlapping ESTs may generally be performed using well known programs (*e.g.*, NCBI BLAST searches), and such ESTs may be used to generate a contiguous full length sequence.

Certain nucleic acid sequences of cDNA molecules encoding at least a portion of a prostate tumor protein are provided in SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472. Isolation of these polynucleotides is described below. Each of these prostate tumor proteins was overexpressed in prostate tumor tissue.

Polynucleotide variants may generally be prepared by any method known in the art, including chemical synthesis by, for example, solid phase phosphoramidite chemical synthesis. Modifications in a polynucleotide sequence may

also be introduced using standard mutagenesis techniques, such as oligonucleotide-directed site-specific mutagenesis (*see* Adelman et al., *DNA* 2:183, 1983). Alternatively, RNA molecules may be generated by *in vitro* or *in vivo* transcription of DNA sequences encoding a prostate tumor protein, or portion thereof, provided that the DNA is incorporated into a vector with a suitable RNA polymerase promoter (such as T7 or SP6). Certain portions may be used to prepare an encoded polypeptide, as described herein. In addition, or alternatively, a portion may be administered to a patient such that the encoded polypeptide is generated *in vivo* (*e.g.*, by transfecting antigen-presenting cells, such as dendritic cells, with a cDNA construct encoding a prostate tumor polypeptide, and administering the transfected cells to the patient).

A portion of a sequence complementary to a coding sequence (*i.e.*, an antisense polynucleotide) may also be used as a probe or to modulate gene expression. cDNA constructs that can be transcribed into antisense RNA may also be introduced into cells of tissues to facilitate the production of antisense RNA. An antisense polynucleotide may be used, as described herein, to inhibit expression of a tumor protein. Antisense technology can be used to control gene expression through triple-helix formation, which compromises the ability of the double helix to open sufficiently for the binding of polymerases, transcription factors or regulatory molecules (*see* Gee et al., *In Huber and Carr, Molecular and Immunologic Approaches*, Futura Publishing Co. (Mt. Kisco, NY; 1994)). Alternatively, an antisense molecule may be designed to hybridize with a control region of a gene (*e.g.*, promoter, enhancer or transcription initiation site), and block transcription of the gene; or to block translation by inhibiting binding of a transcript to ribosomes.

A portion of a coding sequence, or of a complementary sequence, may also be designed as a probe or primer to detect gene expression. Probes may be labeled with a variety of reporter groups, such as radionuclides and enzymes, and are preferably at least 10 nucleotides in length, more preferably at least 20 nucleotides in length and still more preferably at least 30 nucleotides in length. Primers, as noted above, are preferably 22-30 nucleotides in length.

Any polynucleotide may be further modified to increase stability *in vivo*. Possible modifications include, but are not limited to, the addition of flanking sequences at the 5' and/or 3' ends; the use of phosphorothioate or 2' O-methyl rather than phosphodiesterase linkages in the backbone; and/or the inclusion of nontraditional bases such as inosine, queosine and wybutosine, as well as acetyl-, methyl-, thio- and other modified forms of adenine, cytidine, guanine, thymine and uridine.

Nucleotide sequences as described herein may be joined to a variety of other nucleotide sequences using established recombinant DNA techniques. For example, a polynucleotide may be cloned into any of a variety of cloning vectors, including plasmids, phagemids, lambda phage derivatives and cosmids. Vectors of particular interest include expression vectors, replication vectors, probe generation vectors and sequencing vectors. In general, a vector will contain an origin of replication functional in at least one organism, convenient restriction endonuclease sites and one or more selectable markers. Other elements will depend upon the desired use, and will be apparent to those of ordinary skill in the art.

Within certain embodiments, polynucleotides may be formulated so as to permit entry into a cell of a mammal, and expression therein. Such formulations are particularly useful for therapeutic purposes, as described below. Those of ordinary skill in the art will appreciate that there are many ways to achieve expression of a polynucleotide in a target cell, and any suitable method may be employed. For example, a polynucleotide may be incorporated into a viral vector such as, but not limited to, adenovirus, adeno-associated virus, retrovirus, or vaccinia or other pox virus (*e.g.*, avian pox virus). Techniques for incorporating DNA into such vectors are well known to those of ordinary skill in the art. A retroviral vector may additionally transfer or incorporate a gene for a selectable marker (to aid in the identification or selection of transduced cells) and/or a targeting moiety, such as a gene that encodes a ligand for a receptor on a specific target cell, to render the vector target specific. Targeting may also be accomplished using an antibody, by methods known to those of ordinary skill in the art.

Other formulations for therapeutic purposes include colloidal dispersion systems, such as macromolecule complexes, nanocapsules, microspheres, beads, and lipid-based systems including oil-in-water emulsions, micelles, mixed micelles, and liposomes. A preferred colloidal system for use as a delivery vehicle *in vitro* and *in vivo* is a liposome (*i.e.*, an artificial membrane vesicle). The preparation and use of such systems is well known in the art.

PROSTATE TUMOR POLYPEPTIDES

Within the context of the present invention, polypeptides may comprise at least an immunogenic portion of a prostate tumor protein or a variant thereof, as described herein. As noted above, a "prostate tumor protein" is a protein that is expressed by prostate tumor cells. Proteins that are prostate tumor proteins also react detectably within an immunoassay (such as an ELISA) with antisera from a patient with prostate cancer. Polypeptides as described herein may be of any length. Additional sequences derived from the native protein and/or heterologous sequences may be present, and such sequences may (but need not) possess further immunogenic or antigenic properties.

An "immunogenic portion," as used herein is a portion of a protein that is recognized (*i.e.*, specifically bound) by a B-cell and/or T-cell surface antigen receptor. Such immunogenic portions generally comprise at least 5 amino acid residues, more preferably at least 10, and still more preferably at least 20 amino acid residues of a prostate tumor protein or a variant thereof. Certain preferred immunogenic portions include peptides in which an N-terminal leader sequence and/or transmembrane domain have been deleted. Other preferred immunogenic portions may contain a small N- and/or C-terminal deletion (*e.g.*, 1-30 amino acids, preferably 5-15 amino acids), relative to the mature protein.

Immunogenic portions may generally be identified using well known techniques, such as those summarized in Paul, *Fundamental Immunology*, 3rd ed., 243-247 (Raven Press, 1993) and references cited therein. Such techniques include screening polypeptides for the ability to react with antigen-specific antibodies, antisera

and/or T-cell lines or clones. As used herein, antisera and antibodies are "antigen-specific" if they specifically bind to an antigen (*i.e.*, they react with the protein in an ELISA or other immunoassay, and do not react detectably with unrelated proteins). Such antisera and antibodies may be prepared as described herein, and using well known techniques. An immunogenic portion of a native prostate tumor protein is a portion that reacts with such antisera and/or T-cells at a level that is not substantially less than the reactivity of the full length polypeptide (*e.g.*, in an ELISA and/or T-cell reactivity assay). Such immunogenic portions may react within such assays at a level that is similar to or greater than the reactivity of the full length polypeptide. Such screens may generally be performed using methods well known to those of ordinary skill in the art, such as those described in Harlow and Lane, *Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988. For example, a polypeptide may be immobilized on a solid support and contacted with patient sera to allow binding of antibodies within the sera to the immobilized polypeptide. Unbound sera may then be removed and bound antibodies detected using, for example, ¹²⁵I-labeled Protein A.

As noted above, a composition may comprise a variant of a native prostate tumor protein. A polypeptide "variant," as used herein, is a polypeptide that differs from a native prostate tumor protein in one or more substitutions, deletions, additions and/or insertions, such that the immunogenicity of the polypeptide is not substantially diminished. In other words, the ability of a variant to react with antigen-specific antisera may be enhanced or unchanged, relative to the native protein, or may be diminished by less than 50%, and preferably less than 20%, relative to the native protein. Such variants may generally be identified by modifying one of the above polypeptide sequences and evaluating the reactivity of the modified polypeptide with antigen-specific antibodies or antisera as described herein. Preferred variants include those in which one or more portions, such as an N-terminal leader sequence or transmembrane domain, have been removed. Other preferred variants include variants in which a small portion (*e.g.*, 1-30 amino acids, preferably 5-15 amino acids) has been removed from the N- and/or C-terminal of the mature protein. Polypeptide variants preferably exhibit at least about 70%, more preferably at least about 90% and most

preferably at least about 95% identity (determined as described above) to the identified polypeptides.

Preferably, a variant contains conservative substitutions. A "conservative substitution" is one in which an amino acid is substituted for another amino acid that has similar properties, such that one skilled in the art of peptide chemistry would expect the secondary structure and hydropathic nature of the polypeptide to be substantially unchanged. Amino acid substitutions may generally be made on the basis of similarity in polarity, charge, solubility, hydrophobicity, hydrophilicity and/or the amphipathic nature of the residues. For example, negatively charged amino acids include aspartic acid and glutamic acid; positively charged amino acids include lysine and arginine; and amino acids with uncharged polar head groups having similar hydrophilicity values include leucine, isoleucine and valine; glycine and alanine; asparagine and glutamine; and serine, threonine, phenylalanine and tyrosine. Other groups of amino acids that may represent conservative changes include: (1) ala, pro, gly, glu, asp, gln, asn, ser, thr; (2) cys, ser, tyr, thr; (3) val, ile, leu, met, ala, phe; (4) lys, arg, his; and (5) phe, tyr, trp, his. A variant may also, or alternatively, contain nonconservative changes. In a preferred embodiment, variant polypeptides differ from a native sequence by substitution, deletion or addition of five amino acids or fewer. Variants may also (or alternatively) be modified by, for example, the deletion or addition of amino acids that have minimal influence on the immunogenicity, secondary structure and hydropathic nature of the polypeptide.

As noted above, polypeptides may comprise a signal (or leader) sequence at the N-terminal end of the protein which co-translationally or post-translationally directs transfer of the protein. The polypeptide may also be conjugated to a linker or other sequence for ease of synthesis, purification or identification of the polypeptide (*e.g.*, poly-His), or to enhance binding of the polypeptide to a solid support. For example, a polypeptide may be conjugated to an immunoglobulin Fc region.

Polypeptides may be prepared using any of a variety of well known techniques. Recombinant polypeptides encoded by DNA sequences as described above may be readily prepared from the DNA sequences using any of a variety of expression

vectors known to those of ordinary skill in the art. Expression may be achieved in any appropriate host cell that has been transformed or transfected with an expression vector containing a DNA molecule that encodes a recombinant polypeptide. Suitable host cells include prokaryotes, yeast and higher eukaryotic cells. Preferably, the host cells employed are *E. coli*, yeast or a mammalian cell line such as COS or CHO. Supernatants from suitable host/vector systems which secrete recombinant protein or polypeptide into culture media may be first concentrated using a commercially available filter. Following concentration, the concentrate may be applied to a suitable purification matrix such as an affinity matrix or an ion exchange resin. Finally, one or more reverse phase HPLC steps can be employed to further purify a recombinant polypeptide.

Portions and other variants having fewer than about 100 amino acids, and generally fewer than about 50 amino acids, may also be generated by synthetic means, using techniques well known to those of ordinary skill in the art. For example, such polypeptides may be synthesized using any of the commercially available solid-phase techniques, such as the Merrifield solid-phase synthesis method, where amino acids are sequentially added to a growing amino acid chain. See Merrifield, *J. Am. Chem. Soc.* 85:2149-2146, 1963. Equipment for automated synthesis of polypeptides is commercially available from suppliers such as Perkin Elmer/Applied BioSystems Division (Foster City, CA), and may be operated according to the manufacturer's instructions.

Within certain specific embodiments, a polypeptide may be a fusion protein that comprises multiple polypeptides as described herein, or that comprises at least one polypeptide as described herein and an unrelated sequence, such as a known tumor protein. A fusion partner may, for example, assist in providing T helper epitopes (an immunological fusion partner), preferably T helper epitopes recognized by humans, or may assist in expressing the protein (an expression enhancer) at higher yields than the native recombinant protein. Certain preferred fusion partners are both immunological and expression enhancing fusion partners. Other fusion partners may be selected so as to increase the solubility of the protein or to enable the protein to be

targeted to desired intracellular compartments. Still further fusion partners include affinity tags, which facilitate purification of the protein.

In certain embodiments, the present invention provides fusion proteins comprising a polypeptide disclosed herein together with at least one of the following known prostate antigens: prostate specific antigen (PSA); prostatic acid phosphatase (PAP); and prostate specific membrane antigen (PSMA). The protein sequences for PSMA, PAP and PSA are provided in SEQ ID NO: 473-475, respectively. In certain embodiments, the fusion proteins of the present invention comprise PSA, PAP and/or PSMA in combination with one or more of the following the inventive antigens: P501S (amino acid sequence provided in SEQ ID NO: 113); P703P (amino acid sequences provided in SEQ ID NO: 327, 329, 331); P704P (cDNA sequence provided in SEQ ID NO: 67); P712P (cDNA sequence provided in SEQ ID NO: 308); P775P (cDNA sequence provided in SEQ ID NO: 311); P776P (cDNA sequence provided in SEQ ID NO: 354); P790P (cDNA sequence provided in SEQ ID NO: 352). The amino acid sequence of a fusion protein of PSA, P703P and P501S is provided in SEQ ID NO: 476. In preferred embodiments, the inventive fusion proteins comprise one of the following combinations of antigens: PSA and P703P; PSA and P501S; PAP and P703P; PAP and P501S; PSMA and P703P; PSMA and P501S; PSA, PAP and P703P; PSA, PAP and P501S; PSA, PAP, PSMA and P703P, PSA, PAP, PSMA and P501S. One of skill in the art will appreciate that the order of polypeptides within a fusion protein can be altered without substantially changing the therapeutic, prophylactic or diagnostic properties of the fusion protein.

The fusion proteins described above are more immunogenic and will be effective in a greater number of prostate cancer patients than any of the individual components alone. The use of multiple antigens in the form of a fusion protein also lessens the likelihood of immunologic escape.

Fusion proteins may generally be prepared using standard techniques, including chemical conjugation. Preferably, a fusion protein is expressed as a recombinant protein, allowing the production of increased levels, relative to a non-fused protein, in an expression system. Briefly, DNA sequences encoding the polypeptide

components may be assembled separately, and ligated into an appropriate expression vector. The 3' end of the DNA sequence encoding one polypeptide component is ligated, with or without a peptide linker, to the 5' end of a DNA sequence encoding the second polypeptide component so that the reading frames of the sequences are in phase. This permits translation into a single fusion protein that retains the biological activity of both component polypeptides.

A peptide linker sequence may be employed to separate the first and the second polypeptide components by a distance sufficient to ensure that each polypeptide folds into its secondary and tertiary structures. Such a peptide linker sequence is incorporated into the fusion protein using standard techniques well known in the art. Suitable peptide linker sequences may be chosen based on the following factors: (1) their ability to adopt a flexible extended conformation; (2) their inability to adopt a secondary structure that could interact with functional epitopes on the first and second polypeptides; and (3) the lack of hydrophobic or charged residues that might react with the polypeptide functional epitopes. Preferred peptide linker sequences contain Gly, Asn and Ser residues. Other near neutral amino acids, such as Thr and Ala may also be used in the linker sequence. Amino acid sequences which may be usefully employed as linkers include those disclosed in Maratea et al., *Gene* 40:39-46, 1985; Murphy et al., *Proc. Natl. Acad. Sci. USA* 83:8258-8262, 1986; U.S. Patent No. 4,935,233 and U.S. Patent No. 4,751,180. The linker sequence may generally be from 1 to about 50 amino acids in length. Linker sequences are not required when the first and second polypeptides have non-essential N-terminal amino acid regions that can be used to separate the functional domains and prevent steric interference.

The ligated DNA sequences are operably linked to suitable transcriptional or translational regulatory elements. The regulatory elements responsible for expression of DNA are located only 5' to the DNA sequence encoding the first polypeptides. Similarly, stop codons required to end translation and transcription termination signals are only present 3' to the DNA sequence encoding the second polypeptide.

Fusion proteins are also provided that comprise a polypeptide of the present invention together with an unrelated immunogenic protein. Preferably the immunogenic protein is capable of eliciting a recall response. Examples of such proteins include tetanus, tuberculosis and hepatitis proteins (*see, for example, Stoute et al. New Engl. J. Med.*, 336:86-91, 1997).

Within preferred embodiments, an immunological fusion partner is derived from protein D, a surface protein of the gram-negative bacterium *Haemophilus influenza B* (WO 91/18926). Preferably, a protein D derivative comprises approximately the first third of the protein (*e.g.*, the first N-terminal 100-110 amino acids), and a protein D derivative may be lipidated. Within certain preferred embodiments, the first 109 residues of a Lipoprotein D fusion partner is included on the N-terminus to provide the polypeptide with additional exogenous T-cell epitopes and to increase the expression level in *E. coli* (thus functioning as an expression enhancer). The lipid tail ensures optimal presentation of the antigen to antigen presenting cells. Other fusion partners include the non-structural protein from influenzae virus, NS1 (hemagglutinin). Typically, the N-terminal 81 amino acids are used, although different fragments that include T-helper epitopes may be used.

In another embodiment, the immunological fusion partner is the protein known as LYTA, or a portion thereof (preferably a C-terminal portion). LYTA is derived from *Streptococcus pneumoniae*, which synthesizes an N-acetyl-L-alanine amidase known as amidase LYTA (encoded by the *LytA* gene; *Gene* 43:265-292, 1986). LYTA is an autolysin that specifically degrades certain bonds in the peptidoglycan backbone. The C-terminal domain of the LYTA protein is responsible for the affinity to the choline or to some choline analogues such as DEAE. This property has been exploited for the development of *E. coli* C-LYTA expressing plasmids useful for expression of fusion proteins. Purification of hybrid proteins containing the C-LYTA fragment at the amino terminus has been described (*see Biotechnology* 10:795-798, 1992). Within a preferred embodiment, a repeat portion of LYTA may be incorporated into a fusion protein. A repeat portion is found in the C-

terminal region starting at residue 178. A particularly preferred repeat portion incorporates residues 188-305.

In general, polypeptides (including fusion proteins) and polynucleotides as described herein are isolated. An "isolated" polypeptide or polynucleotide is one that is removed from its original environment. For example, a naturally-occurring protein is isolated if it is separated from some or all of the coexisting materials in the natural system. Preferably, such polypeptides are at least about 90% pure, more preferably at least about 95% pure and most preferably at least about 99% pure. A polynucleotide is considered to be isolated if, for example, it is cloned into a vector that is not a part of the natural environment.

BINDING AGENTS

The present invention further provides agents, such as antibodies and antigen-binding fragments thereof, that specifically bind to a prostate tumor protein. As used herein, an antibody, or antigen-binding fragment thereof, is said to "specifically bind" to a prostate tumor protein if it reacts at a detectable level (within, for example, an ELISA) with a prostate tumor protein, and does not react detectably with unrelated proteins under similar conditions. As used herein, "binding" refers to a noncovalent association between two separate molecules such that a complex is formed. The ability to bind may be evaluated by, for example, determining a binding constant for the formation of the complex. The binding constant is the value obtained when the concentration of the complex is divided by the product of the component concentrations. In general, two compounds are said to "bind," in the context of the present invention, when the binding constant for complex formation exceeds about 10^3 L/mol. The binding constant may be determined using methods well known in the art.

Binding agents may be further capable of differentiating between patients with and without a cancer, such as prostate cancer, using the representative assays provided herein. In other words, antibodies or other binding agents that bind to a prostate tumor protein will generate a signal indicating the presence of a cancer in at least about 20% of patients with the disease, and will generate a negative signal

indicating the absence of the disease in at least about 90% of individuals without the cancer. To determine whether a binding agent satisfies this requirement, biological samples (*e.g.*, blood, sera, urine and/or tumor biopsies) from patients with and without a cancer (as determined using standard clinical tests) may be assayed as described herein for the presence of polypeptides that bind to the binding agent. It will be apparent that a statistically significant number of samples with and without the disease should be assayed. Each binding agent should satisfy the above criteria; however, those of ordinary skill in the art will recognize that binding agents may be used in combination to improve sensitivity.

Any agent that satisfies the above requirements may be a binding agent. For example, a binding agent may be a ribosome, with or without a peptide component, an RNA molecule or a polypeptide. In a preferred embodiment, a binding agent is an antibody or an antigen-binding fragment thereof. Antibodies may be prepared by any of a variety of techniques known to those of ordinary skill in the art. *See, e.g.*, Harlow and Lane, *Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988. In general, antibodies can be produced by cell culture techniques, including the generation of monoclonal antibodies as described herein, or via transfection of antibody genes into suitable bacterial or mammalian cell hosts, in order to allow for the production of recombinant antibodies. In one technique, an immunogen comprising the polypeptide is initially injected into any of a wide variety of mammals (*e.g.*, mice, rats, rabbits, sheep or goats). In this step, the polypeptides of this invention may serve as the immunogen without modification. Alternatively, particularly for relatively short polypeptides, a superior immune response may be elicited if the polypeptide is joined to a carrier protein, such as bovine serum albumin or keyhole limpet hemocyanin. The immunogen is injected into the animal host, preferably according to a predetermined schedule incorporating one or more booster immunizations, and the animals are bled periodically. Polyclonal antibodies specific for the polypeptide may then be purified from such antisera by, for example, affinity chromatography using the polypeptide coupled to a suitable solid support.

Monoclonal antibodies specific for an antigenic polypeptide of interest may be prepared, for example, using the technique of Kohler and Milstein, *Eur. J. Immunol.* 6:511-519, 1976, and improvements thereto. Briefly, these methods involve the preparation of immortal cell lines capable of producing antibodies having the desired specificity (*i.e.*, reactivity with the polypeptide of interest). Such cell lines may be produced, for example, from spleen cells obtained from an animal immunized as described above. The spleen cells are then immortalized by, for example, fusion with a myeloma cell fusion partner, preferably one that is syngeneic with the immunized animal. A variety of fusion techniques may be employed. For example, the spleen cells and myeloma cells may be combined with a nonionic detergent for a few minutes and then plated at low density on a selective medium that supports the growth of hybrid cells, but not myeloma cells. A preferred selection technique uses HAT (hypoxanthine, aminopterin, thymidine) selection. After a sufficient time, usually about 1 to 2 weeks, colonies of hybrids are observed. Single colonies are selected and their culture supernatants tested for binding activity against the polypeptide. Hybridomas having high reactivity and specificity are preferred.

Monoclonal antibodies may be isolated from the supernatants of growing hybridoma colonies. In addition, various techniques may be employed to enhance the yield, such as injection of the hybridoma cell line into the peritoneal cavity of a suitable vertebrate host, such as a mouse. Monoclonal antibodies may then be harvested from the ascites fluid or the blood. Contaminants may be removed from the antibodies by conventional techniques, such as chromatography, gel filtration, precipitation, and extraction. The polypeptides of this invention may be used in the purification process in, for example, an affinity chromatography step.

Within certain embodiments, the use of antigen-binding fragments of antibodies may be preferred. Such fragments include Fab fragments, which may be prepared using standard techniques. Briefly, immunoglobulins may be purified from rabbit serum by affinity chromatography on Protein A bead columns (Harlow and Lane, *Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988) and digested

by papain to yield Fab and Fc fragments. The Fab and Fc fragments may be separated by affinity chromatography on protein A bead columns.

Monoclonal antibodies of the present invention may be coupled to one or more therapeutic agents. Suitable agents in this regard include radionuclides, differentiation inducers, drugs, toxins, and derivatives thereof. Preferred radionuclides include ^{90}Y , ^{123}I , ^{125}I , ^{131}I , ^{186}Re , ^{188}Re , ^{211}At , and ^{212}Bi . Preferred drugs include methotrexate, and pyrimidine and purine analogs. Preferred differentiation inducers include phorbol esters and butyric acid. Preferred toxins include ricin, abrin, diphtheria toxin, cholera toxin, gelonin, *Pseudomonas* exotoxin, *Shigella* toxin, and pokeweed antiviral protein.

A therapeutic agent may be coupled (*e.g.*, covalently bonded) to a suitable monoclonal antibody either directly or indirectly (*e.g.*, via a linker group). A direct reaction between an agent and an antibody is possible when each possesses a substituent capable of reacting with the other. For example, a nucleophilic group, such as an amino or sulfhydryl group, on one may be capable of reacting with a carbonyl-containing group, such as an anhydride or an acid halide, or with an alkyl group containing a good leaving group (*e.g.*, a halide) on the other.

Alternatively, it may be desirable to couple a therapeutic agent and an antibody via a linker group. A linker group can function as a spacer to distance an antibody from an agent in order to avoid interference with binding capabilities. A linker group can also serve to increase the chemical reactivity of a substituent on an agent or an antibody, and thus increase the coupling efficiency. An increase in chemical reactivity may also facilitate the use of agents, or functional groups on agents, which otherwise would not be possible.

It will be evident to those skilled in the art that a variety of bifunctional or polyfunctional reagents, both homo- and hetero-functional (such as those described in the catalog of the Pierce Chemical Co., Rockford, IL), may be employed as the linker group. Coupling may be effected, for example, through amino groups, carboxyl groups, sulfhydryl groups or oxidized carbohydrate residues. There are numerous references describing such methodology, *e.g.*, U.S. Patent No. 4,671,958, to Rodwell et al.

Where a therapeutic agent is more potent when free from the antibody portion of the immunoconjugates of the present invention, it may be desirable to use a linker group which is cleavable during or upon internalization into a cell. A number of different cleavable linker groups have been described. The mechanisms for the intracellular release of an agent from these linker groups include cleavage by reduction of a disulfide bond (*e.g.*, U.S. Patent No. 4,489,710, to Spitler), by irradiation of a photolabile bond (*e.g.*, U.S. Patent No. 4,625,014, to Senter et al.), by hydrolysis of derivatized amino acid side chains (*e.g.*, U.S. Patent No. 4,638,045, to Kohn et al.), by serum complement-mediated hydrolysis (*e.g.*, U.S. Patent No. 4,671,958, to Rodwell et al.), and acid-catalyzed hydrolysis (*e.g.*, U.S. Patent No. 4,569,789, to Blattler et al.).

It may be desirable to couple more than one agent to an antibody. In one embodiment, multiple molecules of an agent are coupled to one antibody molecule. In another embodiment, more than one type of agent may be coupled to one antibody. Regardless of the particular embodiment, immunoconjugates with more than one agent may be prepared in a variety of ways. For example, more than one agent may be coupled directly to an antibody molecule, or linkers which provide multiple sites for attachment can be used. Alternatively, a carrier can be used.

A carrier may bear the agents in a variety of ways, including covalent bonding either directly or via a linker group. Suitable carriers include proteins such as albumins (*e.g.*, U.S. Patent No. 4,507,234, to Kato et al.), peptides and polysaccharides such as aminodextran (*e.g.*, U.S. Patent No. 4,699,784, to Shih et al.). A carrier may also bear an agent by noncovalent bonding or by encapsulation, such as within a liposome vesicle (*e.g.*, U.S. Patent Nos. 4,429,008 and 4,873,088). Carriers specific for radionuclide agents include radiohalogenated small molecules and chelating compounds. For example, U.S. Patent No. 4,735,792 discloses representative radiohalogenated small molecules and their synthesis. A radionuclide chelate may be formed from chelating compounds that include those containing nitrogen and sulfur atoms as the donor atoms for binding the metal, or metal oxide, radionuclide. For example, U.S. Patent No. 4,673,562, to Davison et al. discloses representative chelating compounds and their synthesis.

A variety of routes of administration for the antibodies and immunoconjugates may be used. Typically, administration will be intravenous, intramuscular, subcutaneous or in the bed of a resected tumor. It will be evident that the precise dose of the antibody/immunoconjugate will vary depending upon the antibody used, the antigen density on the tumor, and the rate of clearance of the antibody.

T CELLS

Immunotherapeutic compositions may also, or alternatively, comprise T cells specific for a prostate tumor protein. Such cells may generally be prepared *in vitro* or *ex vivo*, using standard procedures. For example, T cells may be isolated from bone marrow, peripheral blood, or a fraction of bone marrow or peripheral blood of a patient, using a commercially available cell separation system, such as the CEPRATE™ system, available from CellPro Inc., Bothell WA (*see also* U.S. Patent No. 5,240,856; U.S. Patent No. 5,215,926; WO 89/06280; WO 91/16116 and WO 92/07243). Alternatively, T cells may be derived from related or unrelated humans, non-human mammals, cell lines or cultures.

T cells may be stimulated with a prostate tumor polypeptide, polynucleotide encoding a prostate tumor polypeptide and/or an antigen presenting cell (APC) that expresses such a polypeptide. Such stimulation is performed under conditions and for a time sufficient to permit the generation of T cells that are specific for the polypeptide. Preferably, a prostate tumor polypeptide or polynucleotide is present within a delivery vehicle, such as a microsphere, to facilitate the generation of specific T cells.

T cells are considered to be specific for a prostate tumor polypeptide if the T cells kill target cells coated with the polypeptide or expressing a gene encoding the polypeptide. T cell specificity may be evaluated using any of a variety of standard techniques. For example, within a chromium release assay or proliferation assay, a stimulation index of more than two fold increase in lysis and/or proliferation, compared to negative controls, indicates T cell specificity. Such assays may be performed, for example, as described in Chen et al., *Cancer Res.* 54:1065-1070, 1994. Alternatively,

detection of the proliferation of T cells may be accomplished by a variety of known techniques. For example, T cell proliferation can be detected by measuring an increased rate of DNA synthesis (e.g., by pulse-labeling cultures of T cells with tritiated thymidine and measuring the amount of tritiated thymidine incorporated into DNA). Contact with a prostate tumor polypeptide (100 ng/ml - 100 µg/ml, preferably 200 ng/ml - 25 µg/ml) for 3 - 7 days should result in at least a two fold increase in proliferation of the T cells. Contact as described above for 2-3 hours should result in activation of the T cells, as measured using standard cytokine assays in which a two fold increase in the level of cytokine release (e.g., TNF or IFN-γ) is indicative of T cell activation (*see* Coligan et al., Current Protocols in Immunology, vol. 1, Wiley Interscience (Greene 1998)). T cells that have been activated in response to a prostate tumor polypeptide, polynucleotide or polypeptide-expressing APC may be CD4⁺ and/or CD8⁺. Prostate tumor protein-specific T cells may be expanded using standard techniques. Within preferred embodiments, the T cells are derived from either a patient or a related, or unrelated, donor and are administered to the patient following stimulation and expansion.

For therapeutic purposes, CD4⁺ or CD8⁺ T cells that proliferate in response to a prostate tumor polypeptide, polynucleotide or APC can be expanded in number either *in vitro* or *in vivo*. Proliferation of such T cells *in vitro* may be accomplished in a variety of ways. For example, the T cells can be re-exposed to a prostate tumor polypeptide, or a short peptide corresponding to an immunogenic portion of such a polypeptide, with or without the addition of T cell growth factors, such as interleukin-2, and/or stimulator cells that synthesize a prostate tumor polypeptide. Alternatively, one or more T cells that proliferate in the presence of a prostate tumor protein can be expanded in number by cloning. Methods for cloning cells are well known in the art, and include limiting dilution.

PHARMACEUTICAL COMPOSITIONS AND VACCINES

Within certain aspects, polypeptides, polynucleotides, T cells and/or binding agents disclosed herein may be incorporated into pharmaceutical compositions

or immunogenic compositions (*i.e.*, vaccines). Pharmaceutical compositions comprise one or more such compounds and a physiologically acceptable carrier. Vaccines may comprise one or more such compounds and a non-specific immune response enhancer. A non-specific immune response enhancer may be any substance that enhances an immune response to an exogenous antigen. Examples of non-specific immune response enhancers include adjuvants, biodegradable microspheres (*e.g.*, polylactic galactide) and liposomes (into which the compound is incorporated; *see e.g.*, Fullerton, U.S. Patent No. 4,235,877). Vaccine preparation is generally described in, for example, M.F. Powell and M.J. Newman, eds., "Vaccine Design (the subunit and adjuvant approach)," Plenum Press (NY, 1995). Pharmaceutical compositions and vaccines within the scope of the present invention may also contain other compounds, which may be biologically active or inactive. For example, one or more immunogenic portions of other tumor antigens may be present, either incorporated into a fusion polypeptide or as a separate compound, within the composition or vaccine.

A pharmaceutical composition or vaccine may contain DNA encoding one or more of the polypeptides as described above, such that the polypeptide is generated *in situ*. As noted above, the DNA may be present within any of a variety of delivery systems known to those of ordinary skill in the art, including nucleic acid expression systems, bacteria and viral expression systems. Numerous gene delivery techniques are well known in the art, such as those described by Rolland, *Crit. Rev. Therap. Drug Carrier Systems* 15:143-198, 1998, and references cited therein. Appropriate nucleic acid expression systems contain the necessary DNA sequences for expression in the patient (such as a suitable promoter and terminating signal). Bacterial delivery systems involve the administration of a bacterium (such as *Bacillus-Calmette-Guerrin*) that expresses an immunogenic portion of the polypeptide on its cell surface or secretes such an epitope. In a preferred embodiment, the DNA may be introduced using a viral expression system (*e.g.*, vaccinia or other pox virus, retrovirus, or adenovirus), which may involve the use of a non-pathogenic (defective), replication competent virus. Suitable systems are disclosed, for example, in Fisher-Hoch et al., *Proc. Natl. Acad. Sci. USA* 86:317-321, 1989; Flexner et al., *Ann. N.Y. Acad. Sci.* 569:86-103, 1989; Flexner

et al., *Vaccine* 8:17-21, 1990; U.S. Patent Nos. 4,603,112, 4,769,330, and 5,017,487; WO 89/01973; U.S. Patent No. 4,777,127; GB 2,200,651; EP 0,345,242; WO 91/02805; Berkner, *Biotechniques* 6:616-627, 1988; Rosenfeld et al., *Science* 252:431-434, 1991; Kolls et al., *Proc. Natl. Acad. Sci. USA* 91:215-219, 1994; Kass-Eisler et al., *Proc. Natl. Acad. Sci. USA* 90:11498-11502, 1993; Guzman et al., *Circulation* 88:2838-2848, 1993; and Guzman et al., *Cir. Res.* 73:1202-1207, 1993. Techniques for incorporating DNA into such expression systems are well known to those of ordinary skill in the art. The DNA may also be "naked," as described, for example, in Ulmer et al., *Science* 259:1745-1749, 1993 and reviewed by Cohen, *Science* 259:1691-1692, 1993. The uptake of naked DNA may be increased by coating the DNA onto biodegradable beads, which are efficiently transported into the cells.

While any suitable carrier known to those of ordinary skill in the art may be employed in the pharmaceutical compositions of this invention, the type of carrier will vary depending on the mode of administration. Compositions of the present invention may be formulated for any appropriate manner of administration, including for example, topical, oral, nasal, intravenous, intracranial, intraperitoneal, subcutaneous or intramuscular administration. For parenteral administration, such as subcutaneous injection, the carrier preferably comprises water, saline, alcohol, a fat, a wax or a buffer. For oral administration, any of the above carriers or a solid carrier, such as mannitol, lactose, starch, magnesium stearate, sodium saccharine, talcum, cellulose, glucose, sucrose, and magnesium carbonate, may be employed. Biodegradable microspheres (e.g., polylactate polyglycolate) may also be employed as carriers for the pharmaceutical compositions of this invention. Suitable biodegradable microspheres are disclosed, for example, in U.S. Patent Nos. 4,897,268 and 5,075,109.

Such compositions may also comprise buffers (e.g., neutral buffered saline or phosphate buffered saline), carbohydrates (e.g., glucose, mannose, sucrose or dextrans), mannitol, proteins, polypeptides or amino acids such as glycine, antioxidants, chelating agents such as EDTA or glutathione, adjuvants (e.g., aluminum hydroxide) and/or preservatives. Alternatively, compositions of the present invention may be

formulated as a lyophilizate. Compounds may also be encapsulated within liposomes using well known technology.

Any of a variety of non-specific immune response enhancers may be employed in the vaccines of this invention. For example, an adjuvant may be included. Most adjuvants contain a substance designed to protect the antigen from rapid catabolism, such as aluminum hydroxide or mineral oil, and a stimulator of immune responses, such as lipid A, *Bordetella pertussis* or *Mycobacterium tuberculosis* derived proteins. Suitable adjuvants are commercially available as, for example, Freund's Incomplete Adjuvant and Complete Adjuvant (Difco Laboratories, Detroit, MI); Merck Adjuvant 65 (Merck and Company, Inc., Rahway, NJ); aluminum salts such as aluminum hydroxide gel (alum) or aluminum phosphate; salts of calcium, iron or zinc; an insoluble suspension of acylated tyrosine; acylated sugars; cationically or anionically derivatized polysaccharides; polyphosphazenes; biodegradable microspheres; monophosphoryl lipid A and quil A. Cytokines, such as GM-CSF or interleukin-2, -7, or -12, may also be used as adjuvants.

Within the vaccines provided herein, the adjuvant composition is preferably designed to induce an immune response predominantly of the Th1 type. High levels of Th1-type cytokines (*e.g.*, IFN- γ , IL-2 and IL-12) tend to favor the induction of cell mediated immune responses to an administered antigen. In contrast, high levels of Th2-type cytokines (*e.g.*, IL-4, IL-5, IL-6, IL-10 and TNF- β) tend to favor the induction of humoral immune responses. Following application of a vaccine as provided herein, a patient will support an immune response that includes Th1- and Th2-type responses. Within a preferred embodiment, in which a response is predominantly Th1-type, the level of Th1-type cytokines will increase to a greater extent than the level of Th2-type cytokines. The levels of these cytokines may be readily assessed using standard assays. For a review of the families of cytokines, see Mosmann and Coffman, *Ann. Rev. Immunol.* 7:145-173, 1989.

Preferred adjuvants for use in eliciting a predominantly Th1-type response include, for example, a combination of monophosphoryl lipid A, preferably 3-de-O-acylated monophosphoryl lipid A (3D-MPL), together with an aluminum salt.

MPL adjuvants are available from Ribi ImmunoChem Research Inc. (Hamilton, MT; *see* US Patent Nos. 4,436,727; 4,877,611; 4,866,034 and 4,912,094). CpG-containing oligonucleotides (in which the CpG dinucleotide is unmethylated) also induce a predominantly Th1 response. Such oligonucleotides are well known and are described, for example, in WO 96/02555. Another preferred adjuvant is a saponin, preferably QS21, which may be used alone or in combination with other adjuvants. For example, an enhanced system involves the combination of a monophosphoryl lipid A and saponin derivative, such as the combination of QS21 and 3D-MPL as described in WO 94/00153, or a less reactogenic composition where the QS21 is quenched with cholesterol, as described in WO 96/33739. Other preferred formulations comprises an oil-in-water emulsion and tocopherol. A particularly potent adjuvant formulation involving QS21, 3D-MPL and tocopherol in an oil-in-water emulsion is described in WO 95/17210. Any vaccine provided herein may be prepared using well known methods that result in a combination of antigen, immune response enhancer and a suitable carrier or excipient.

The compositions described herein may be administered as part of a sustained release formulation (*i.e.*, a formulation such as a capsule or sponge that effects a slow release of compound following administration). Such formulations may generally be prepared using well known technology and administered by, for example, oral, rectal or subcutaneous implantation, or by implantation at the desired target site. Sustained-release formulations may contain a polypeptide, polynucleotide or antibody dispersed in a carrier matrix and/or contained within a reservoir surrounded by a rate controlling membrane. Carriers for use within such formulations are biocompatible, and may also be biodegradable; preferably the formulation provides a relatively constant level of active component release. The amount of active compound contained within a sustained release formulation depends upon the site of implantation, the rate and expected duration of release and the nature of the condition to be treated or prevented.

Any of a variety of delivery vehicles may be employed within pharmaceutical compositions and vaccines to facilitate production of an antigen-specific

immune response that targets tumor cells. Delivery vehicles include antigen presenting cells (APCs), such as dendritic cells, macrophages, B cells, monocytes and other cells that may be engineered to be efficient APCs. Such cells may, but need not, be genetically modified to increase the capacity for presenting the antigen, to improve activation and/or maintenance of the T cell response, to have anti-tumor effects *per se* and/or to be immunologically compatible with the receiver (*i.e.*, matched HLA haplotype). APCs may generally be isolated from any of a variety of biological fluids and organs, including tumor and peritumoral tissues, and may be autologous, allogeneic, syngeneic or xenogeneic cells.

Certain preferred embodiments of the present invention use dendritic cells or progenitors thereof as antigen-presenting cells. Dendritic cells are highly potent APCs (Banchereau and Steinman, *Nature* 392:245-251, 1998) and have been shown to be effective as a physiological adjuvant for eliciting prophylactic or therapeutic antitumor immunity (*see* Timmerman and Levy, *Ann. Rev. Med.* 50:507-529, 1999). In general, dendritic cells may be identified based on their typical shape (stellate *in situ*, with marked cytoplasmic processes (dendrites) visible *in vitro*) and based on the lack of differentiation markers of B cells (CD19 and CD20), T cells (CD3), monocytes (CD14) and natural killer cells (CD56), as determined using standard assays. Dendritic cells may, of course, be engineered to express specific cell-surface receptors or ligands that are not commonly found on dendritic cells *in vivo* or *ex vivo*, and such modified dendritic cells are contemplated by the present invention. As an alternative to dendritic cells, secreted vesicles antigen-loaded dendritic cells (called exosomes) may be used within a vaccine (*see* Zitvogel et al., *Nature Med.* 4:594-600, 1998).

Dendritic cells and progenitors may be obtained from peripheral blood, bone marrow, tumor-infiltrating cells, peritumoral tissues-infiltrating cells, lymph nodes, spleen, skin, umbilical cord blood or any other suitable tissue or fluid. For example, dendritic cells may be differentiated *ex vivo* by adding a combination of cytokines such as GM-CSF, IL-4, IL-13 and/or TNF α to cultures of monocytes harvested from peripheral blood. Alternatively, CD34 positive cells harvested from peripheral blood, umbilical cord blood or bone marrow may be differentiated into

dendritic cells by adding to the culture medium combinations of GM-CSF, IL-3, TNF α , CD40 ligand, LPS, flt3 ligand and/or other compound(s) that induce maturation and proliferation of dendritic cells.

Dendritic cells are conveniently categorized as "immature" and "mature" cells, which allows a simple way to discriminate between two well characterized phenotypes. However, this nomenclature should not be construed to exclude all possible intermediate stages of differentiation. Immature dendritic cells are characterized as APC with a high capacity for antigen uptake and processing, which correlates with the high expression of Fc γ receptor, mannose receptor and DEC-205 marker. The mature phenotype is typically characterized by a lower expression of these markers, but a high expression of cell surface molecules responsible for T cell activation such as class I and class II MHC, adhesion molecules (*e.g.*, CD54 and CD11) and costimulatory molecules (*e.g.*, CD40, CD80 and CD86).

APCs may generally be transfected with a polynucleotide encoding a prostate tumor protein (or portion or other variant thereof) such that the prostate tumor polypeptide, or an immunogenic portion thereof, is expressed on the cell surface. Such transfection may take place *ex vivo*, and a composition or vaccine comprising such transfected cells may then be used for therapeutic purposes, as described herein. Alternatively, a gene delivery vehicle that targets a dendritic or other antigen presenting cell may be administered to a patient, resulting in transfection that occurs *in vivo*. *In vivo* and *ex vivo* transfection of dendritic cells, for example, may generally be performed using any methods known in the art, such as those described in WO 97/24447, or the gene gun approach described by Mahvi et al., *Immunology and cell Biology* 75:456-460, 1997. Antigen loading of dendritic cells may be achieved by incubating dendritic cells or progenitor cells with the prostate tumor polypeptide, DNA (naked or within a plasmid vector) or RNA; or with antigen-expressing recombinant bacterium or viruses (*e.g.*, vaccinia, fowlpox, adenovirus or lentivirus vectors). Prior to loading, the polypeptide may be covalently conjugated to an immunological partner that provides T cell help (*e.g.*, a carrier molecule). Alternatively, a dendritic cell may be

pulsed with a non-conjugated immunological partner, separately or in the presence of the polypeptide.

CANCER THERAPY

In further aspects of the present invention, the compositions described herein may be used for immunotherapy of cancer, such as prostate cancer. Within such methods, pharmaceutical compositions and vaccines are typically administered to a patient. As used herein, a "patient" refers to any warm-blooded animal, preferably a human. A patient may or may not be afflicted with cancer. Accordingly, the above pharmaceutical compositions and vaccines may be used to prevent the development of a cancer or to treat a patient afflicted with a cancer. A cancer may be diagnosed using criteria generally accepted in the art, including the presence of a malignant tumor. Pharmaceutical compositions and vaccines may be administered either prior to or following surgical removal of primary tumors and/or treatment such as administration of radiotherapy or conventional chemotherapeutic drugs.

Within certain embodiments, immunotherapy may be active immunotherapy, in which treatment relies on the *in vivo* stimulation of the endogenous host immune system to react against tumors with the administration of immune response-modifying agents (such as polypeptides and polynucleotides disclosed herein).

Within other embodiments, immunotherapy may be passive immunotherapy, in which treatment involves the delivery of agents with established tumor-immune reactivity (such as effector cells or antibodies) that can directly or indirectly mediate antitumor effects and does not necessarily depend on an intact host immune system. Examples of effector cells include T cells as discussed above, T lymphocytes (such as CD8⁺ cytotoxic T lymphocytes and CD4⁺ T-helper tumor-infiltrating lymphocytes), killer cells (such as Natural Killer cells and lymphokine-activated killer cells), B cells and antigen-presenting cells (such as dendritic cells and macrophages) expressing a polypeptide provided herein. T cell receptors and antibody receptors specific for the polypeptides recited herein may be cloned, expressed and transferred into other vectors or effector cells for adoptive immunotherapy. The

polypeptides provided herein may also be used to generate antibodies or anti-idiotypic antibodies (as described above and in U.S. Patent No. 4,918,164) for passive immunotherapy.

Effector cells may generally be obtained in sufficient quantities for adoptive immunotherapy by growth *in vitro*, as described herein. Culture conditions for expanding single antigen-specific effector cells to several billion in number with retention of antigen recognition *in vivo* are well known in the art. Such *in vitro* culture conditions typically use intermittent stimulation with antigen, often in the presence of cytokines (such as IL-2) and non-dividing feeder cells. As noted above, immunoreactive polypeptides as provided herein may be used to rapidly expand antigen-specific T cell cultures in order to generate a sufficient number of cells for immunotherapy. In particular, antigen-presenting cells, such as dendritic, macrophage, monocyte, fibroblast or B cells, may be pulsed with immunoreactive polypeptides or transfected with one or more polynucleotides using standard techniques well known in the art. For example, antigen-presenting cells can be transfected with a polynucleotide having a promoter appropriate for increasing expression in a recombinant virus or other expression system. Cultured effector cells for use in therapy must be able to grow and distribute widely, and to survive long term *in vivo*. Studies have shown that cultured effector cells can be induced to grow *in vivo* and to survive long term in substantial numbers by repeated stimulation with antigen supplemented with IL-2 (*see*, for example, Cheever et al., *Immunological Reviews* 157:177, 1997).

Alternatively, a vector expressing a polypeptide recited herein may be introduced into antigen presenting cells taken from a patient and clonally propagated *ex vivo* for transplant back into the same patient. Transfected cells may be reintroduced into the patient using any means known in the art, preferably in sterile form by intravenous, intracavitary, intraperitoneal or intratumor administration.

Routes and frequency of administration of the therapeutic compositions disclosed herein, as well as dosage, will vary from individual to individual, and may be readily established using standard techniques. In general, the pharmaceutical compositions and vaccines may be administered by injection (e.g., intracutaneous,

intramuscular, intravenous or subcutaneous), intranasally (*e.g.*, by aspiration) or orally. Preferably, between 1 and 10 doses may be administered over a 52 week period. Preferably, 6 doses are administered, at intervals of 1 month, and booster vaccinations may be given periodically thereafter. Alternate protocols may be appropriate for individual patients. A suitable dose is an amount of a compound that, when administered as described above, is capable of promoting an anti-tumor immune response, and is at least 10-50% above the basal (*i.e.*, untreated) level. Such response can be monitored by measuring the anti-tumor antibodies in a patient or by vaccine-dependent generation of cytolytic effector cells capable of killing the patient's tumor cells *in vitro*. Such vaccines should also be capable of causing an immune response that leads to an improved clinical outcome (*e.g.*, more frequent remissions, complete or partial or longer disease-free survival) in vaccinated patients as compared to non-vaccinated patients. In general, for pharmaceutical compositions and vaccines comprising one or more polypeptides, the amount of each polypeptide present in a dose ranges from about 100 μ g to 5 mg per kg of host. Suitable dose sizes will vary with the size of the patient, but will typically range from about 0.1 mL to about 5 mL.

In general, an appropriate dosage and treatment regimen provides the active compound(s) in an amount sufficient to provide therapeutic and/or prophylactic benefit. Such a response can be monitored by establishing an improved clinical outcome (*e.g.*, more frequent remissions, complete or partial, or longer disease-free survival) in treated patients as compared to non-treated patients. Increases in preexisting immune responses to a prostate tumor protein generally correlate with an improved clinical outcome. Such immune responses may generally be evaluated using standard proliferation, cytotoxicity or cytokine assays, which may be performed using samples obtained from a patient before and after treatment.

METHODS FOR DETECTING CANCER

In general, a cancer may be detected in a patient based on the presence of one or more prostate tumor proteins and/or polynucleotides encoding such proteins in a biological sample (for example, blood, sera, urine and/or tumor biopsies) obtained from

the patient. In other words, such proteins may be used as markers to indicate the presence or absence of a cancer such as prostate cancer. In addition, such proteins may be useful for the detection of other cancers. The binding agents provided herein generally permit detection of the level of antigen that binds to the agent in the biological sample. Polynucleotide primers and probes may be used to detect the level of mRNA encoding a tumor protein, which is also indicative of the presence or absence of a cancer. In general, a prostate tumor sequence should be present at a level that is at least three fold higher in tumor tissue than in normal tissue

There are a variety of assay formats known to those of ordinary skill in the art for using a binding agent to detect polypeptide markers in a sample. *See, e.g.,* Harlow and Lane, *Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988. In general, the presence or absence of a cancer in a patient may be determined by (a) contacting a biological sample obtained from a patient with a binding agent; (b) detecting in the sample a level of polypeptide that binds to the binding agent; and (c) comparing the level of polypeptide with a predetermined cut-off value.

In a preferred embodiment, the assay involves the use of binding agent immobilized on a solid support to bind to and remove the polypeptide from the remainder of the sample. The bound polypeptide may then be detected using a detection reagent that contains a reporter group and specifically binds to the binding agent/polypeptide complex. Such detection reagents may comprise, for example, a binding agent that specifically binds to the polypeptide or an antibody or other agent that specifically binds to the binding agent, such as an anti-immunoglobulin, protein G, protein A or a lectin. Alternatively, a competitive assay may be utilized, in which a polypeptide is labeled with a reporter group and allowed to bind to the immobilized binding agent after incubation of the binding agent with the sample. The extent to which components of the sample inhibit the binding of the labeled polypeptide to the binding agent is indicative of the reactivity of the sample with the immobilized binding agent. Suitable polypeptides for use within such assays include full length prostate tumor proteins and portions thereof to which the binding agent binds, as described above.

The solid support may be any material known to those of ordinary skill in the art to which the tumor protein may be attached. For example, the solid support may be a test well in a microtiter plate or a nitrocellulose or other suitable membrane. Alternatively, the support may be a bead or disc, such as glass, fiberglass, latex or a plastic material such as polystyrene or polyvinylchloride. The support may also be a magnetic particle or a fiber optic sensor, such as those disclosed, for example, in U.S. Patent No. 5,359,681. The binding agent may be immobilized on the solid support using a variety of techniques known to those of skill in the art, which are amply described in the patent and scientific literature. In the context of the present invention, the term "immobilization" refers to both noncovalent association, such as adsorption, and covalent attachment (which may be a direct linkage between the agent and functional groups on the support or may be a linkage by way of a cross-linking agent). Immobilization by adsorption to a well in a microtiter plate or to a membrane is preferred. In such cases, adsorption may be achieved by contacting the binding agent, in a suitable buffer, with the solid support for a suitable amount of time. The contact time varies with temperature, but is typically between about 1 hour and about 1 day. In general, contacting a well of a plastic microtiter plate (such as polystyrene or polyvinylchloride) with an amount of binding agent ranging from about 10 ng to about 10 μ g, and preferably about 100 ng to about 1 μ g, is sufficient to immobilize an adequate amount of binding agent.

Covalent attachment of binding agent to a solid support may generally be achieved by first reacting the support with a bifunctional reagent that will react with both the support and a functional group, such as a hydroxyl or amino group, on the binding agent. For example, the binding agent may be covalently attached to supports having an appropriate polymer coating using benzoquinone or by condensation of an aldehyde group on the support with an amine and an active hydrogen on the binding partner (*see, e.g.,* Pierce Immunotechnology Catalog and Handbook, 1991, at A12-A13).

In certain embodiments, the assay is a two-antibody sandwich assay. This assay may be performed by first contacting an antibody that has been immobilized

on a solid support, commonly the well of a microtiter plate, with the sample, such that polypeptides within the sample are allowed to bind to the immobilized antibody. Unbound sample is then removed from the immobilized polypeptide-antibody complexes and a detection reagent (preferably a second antibody capable of binding to a different site on the polypeptide) containing a reporter group is added. The amount of detection reagent that remains bound to the solid support is then determined using a method appropriate for the specific reporter group.

More specifically, once the antibody is immobilized on the support as described above, the remaining protein binding sites on the support are typically blocked. Any suitable blocking agent known to those of ordinary skill in the art, such as bovine serum albumin or Tween 20™ (Sigma Chemical Co., St. Louis, MO). The immobilized antibody is then incubated with the sample, and polypeptide is allowed to bind to the antibody. The sample may be diluted with a suitable diluent, such as phosphate-buffered saline (PBS) prior to incubation. In general, an appropriate contact time (*i.e.*, incubation time) is a period of time that is sufficient to detect the presence of polypeptide within a sample obtained from an individual with prostate cancer. Preferably, the contact time is sufficient to achieve a level of binding that is at least about 95% of that achieved at equilibrium between bound and unbound polypeptide. Those of ordinary skill in the art will recognize that the time necessary to achieve equilibrium may be readily determined by assaying the level of binding that occurs over a period of time. At room temperature, an incubation time of about 30 minutes is generally sufficient.

Unbound sample may then be removed by washing the solid support with an appropriate buffer, such as PBS containing 0.1% Tween 20™. The second antibody, which contains a reporter group, may then be added to the solid support. Preferred reporter groups include those groups recited above.

The detection reagent is then incubated with the immobilized antibody-polypeptide complex for an amount of time sufficient to detect the bound polypeptide. An appropriate amount of time may generally be determined by assaying the level of binding that occurs over a period of time. Unbound detection reagent is then removed

and bound detection reagent is detected using the reporter group. The method employed for detecting the reporter group depends upon the nature of the reporter group. For radioactive groups, scintillation counting or autoradiographic methods are generally appropriate. Spectroscopic methods may be used to detect dyes, luminescent groups and fluorescent groups. Biotin may be detected using avidin, coupled to a different reporter group (commonly a radioactive or fluorescent group or an enzyme). Enzyme reporter groups may generally be detected by the addition of substrate (generally for a specific period of time), followed by spectroscopic or other analysis of the reaction products.

To determine the presence or absence of a cancer, such as prostate cancer, the signal detected from the reporter group that remains bound to the solid support is generally compared to a signal that corresponds to a predetermined cut-off value. In one preferred embodiment, the cut-off value for the detection of a cancer is the average mean signal obtained when the immobilized antibody is incubated with samples from patients without the cancer. In general, a sample generating a signal that is three standard deviations above the predetermined cut-off value is considered positive for the cancer. In an alternate preferred embodiment, the cut-off value is determined using a Receiver Operator Curve, according to the method of Sackett et al., *Clinical Epidemiology: A Basic Science for Clinical Medicine*, Little Brown and Co., 1985, p. 106-7. Briefly, in this embodiment, the cut-off value may be determined from a plot of pairs of true positive rates (*i.e.*, sensitivity) and false positive rates (100%-specificity) that correspond to each possible cut-off value for the diagnostic test result. The cut-off value on the plot that is the closest to the upper left-hand corner (*i.e.*, the value that encloses the largest area) is the most accurate cut-off value, and a sample generating a signal that is higher than the cut-off value determined by this method may be considered positive. Alternatively, the cut-off value may be shifted to the left along the plot, to minimize the false positive rate, or to the right, to minimize the false negative rate. In general, a sample generating a signal that is higher than the cut-off value determined by this method is considered positive for a cancer.

In a related embodiment, the assay is performed in a flow-through or strip test format, wherein the binding agent is immobilized on a membrane, such as nitrocellulose. In the flow-through test, polypeptides within the sample bind to the immobilized binding agent as the sample passes through the membrane. A second, labeled binding agent then binds to the binding agent-polypeptide complex as a solution containing the second binding agent flows through the membrane. The detection of bound second binding agent may then be performed as described above. In the strip test format, one end of the membrane to which binding agent is bound is immersed in a solution containing the sample. The sample migrates along the membrane through a region containing second binding agent and to the area of immobilized binding agent. Concentration of second binding agent at the area of immobilized antibody indicates the presence of a cancer. Typically, the concentration of second binding agent at that site generates a pattern, such as a line, that can be read visually. The absence of such a pattern indicates a negative result. In general, the amount of binding agent immobilized on the membrane is selected to generate a visually discernible pattern when the biological sample contains a level of polypeptide that would be sufficient to generate a positive signal in the two-antibody sandwich assay, in the format discussed above. Preferred binding agents for use in such assays are antibodies and antigen-binding fragments thereof. Preferably, the amount of antibody immobilized on the membrane ranges from about 25 ng to about 1 μ g, and more preferably from about 50 ng to about 500 ng. Such tests can typically be performed with a very small amount of biological sample.

Of course, numerous other assay protocols exist that are suitable for use with the tumor proteins or binding agents of the present invention. The above descriptions are intended to be exemplary only. For example, it will be apparent to those of ordinary skill in the art that the above protocols may be readily modified to use prostate tumor polypeptides to detect antibodies that bind to such polypeptides in a biological sample. The detection of such prostate tumor protein specific antibodies may correlate with the presence of a cancer.

A cancer may also, or alternatively, be detected based on the presence of T cells that specifically react with a prostate tumor protein in a biological sample. Within certain methods, a biological sample comprising CD4⁺ and/or CD8⁺ T cells isolated from a patient is incubated with a prostate tumor polypeptide, a polynucleotide encoding such a polypeptide and/or an APC that expresses at least an immunogenic portion of such a polypeptide, and the presence or absence of specific activation of the T cells is detected. Suitable biological samples include, but are not limited to, isolated T cells. For example, T cells may be isolated from a patient by routine techniques (such as by Ficoll/Hypaque density gradient centrifugation of peripheral blood lymphocytes). T cells may be incubated *in vitro* for 2-9 days (typically 4 days) at 37°C with prostate tumor polypeptide (*e.g.*, 5 - 25 µg/ml). It may be desirable to incubate another aliquot of a T cell sample in the absence of prostate tumor polypeptide to serve as a control. For CD4⁺ T cells, activation is preferably detected by evaluating proliferation of the T cells. For CD8⁺ T cells, activation is preferably detected by evaluating cytolytic activity. A level of proliferation that is at least two fold greater and/or a level of cytolytic activity that is at least 20% greater than in disease-free patients indicates the presence of a cancer in the patient.

As noted above, a cancer may also, or alternatively, be detected based on the level of mRNA encoding a prostate tumor protein in a biological sample. For example, at least two oligonucleotide primers may be employed in a polymerase chain reaction (PCR) based assay to amplify a portion of a prostate tumor cDNA derived from a biological sample, wherein at least one of the oligonucleotide primers is specific for (*i.e.*, hybridizes to) a polynucleotide encoding the prostate tumor protein. The amplified cDNA is then separated and detected using techniques well known in the art, such as gel electrophoresis. Similarly, oligonucleotide probes that specifically hybridize to a polynucleotide encoding a prostate tumor protein may be used in a hybridization assay to detect the presence of polynucleotide encoding the tumor protein in a biological sample.

To permit hybridization under assay conditions, oligonucleotide primers and probes should comprise an oligonucleotide sequence that has at least about 60%,

preferably at least about 75% and more preferably at least about 90%, identity to a portion of a polynucleotide encoding a prostate tumor protein that is at least 10 nucleotides, and preferably at least 20 nucleotides, in length. Preferably, oligonucleotide primers and/or probes will hybridize to a polynucleotide encoding a polypeptide disclosed herein under moderately stringent conditions, as defined above. Oligonucleotide primers and/or probes which may be usefully employed in the diagnostic methods described herein preferably are at least 10-40 nucleotides in length. In a preferred embodiment, the oligonucleotide primers comprise at least 10 contiguous nucleotides, more preferably at least 15 contiguous nucleotides, of a DNA molecule having a sequence recited in SEQ ID NO: 1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375 and 381. Techniques for both PCR based assays and hybridization assays are well known in the art (*see, for example, Mullis et al., Cold Spring Harbor Symp. Quant. Biol., 51:263, 1987; Erlich ed., PCR Technology, Stockton Press, NY, 1989*).

One preferred assay employs RT-PCR, in which PCR is applied in conjunction with reverse transcription. Typically, RNA is extracted from a biological sample, such as biopsy tissue, and is reverse transcribed to produce cDNA molecules. PCR amplification using at least one specific primer generates a cDNA molecule, which may be separated and visualized using, for example, gel electrophoresis. Amplification may be performed on biological samples taken from a test patient and from an individual who is not afflicted with a cancer. The amplification reaction may be performed on several dilutions of cDNA spanning two orders of magnitude. A two-fold or greater increase in expression in several dilutions of the test patient sample as compared to the same dilutions of the non-cancerous sample is typically considered positive.

In another embodiment, the disclosed compositions may be used as markers for the progression of cancer. In this embodiment, assays as described above for the diagnosis of a cancer may be performed over time, and the change in the level of reactive polypeptide(s) or polynucleotide evaluated. For example, the assays may be performed every 24-72 hours for a period of 6 months to 1 year, and thereafter

performed as needed. In general, a cancer is progressing in those patients in whom the level of polypeptide or polynucleotide detected increases over time. In contrast, the cancer is not progressing when the level of reactive polypeptide or polynucleotide either remains constant or decreases with time.

Certain *in vivo* diagnostic assays may be performed directly on a tumor. One such assay involves contacting tumor cells with a binding agent. The bound binding agent may then be detected directly or indirectly via a reporter group. Such binding agents may also be used in histological applications. Alternatively, polynucleotide probes may be used within such applications.

As noted above, to improve sensitivity, multiple prostate tumor protein markers may be assayed within a given sample. It will be apparent that binding agents specific for different proteins provided herein may be combined within a single assay. Further, multiple primers or probes may be used concurrently. The selection of tumor protein markers may be based on routine experiments to determine combinations that results in optimal sensitivity. In addition, or alternatively, assays for tumor proteins provided herein may be combined with assays for other known tumor antigens.

DIAGNOSTIC KITS

The present invention further provides kits for use within any of the above diagnostic methods. Such kits typically comprise two or more components necessary for performing a diagnostic assay. Components may be compounds, reagents, containers and/or equipment. For example, one container within a kit may contain a monoclonal antibody or fragment thereof that specifically binds to a prostate tumor protein. Such antibodies or fragments may be provided attached to a support material, as described above. One or more additional containers may enclose elements, such as reagents or buffers, to be used in the assay. Such kits may also, or alternatively, contain a detection reagent as described above that contains a reporter group suitable for direct or indirect detection of antibody binding.

Alternatively, a kit may be designed to detect the level of mRNA encoding a prostate tumor protein in a biological sample. Such kits generally comprise

at least one oligonucleotide probe or primer, as described above, that hybridizes to a polynucleotide encoding a prostate tumor protein. Such an oligonucleotide may be used, for example, within a PCR or hybridization assay. Additional components that may be present within such kits include a second oligonucleotide and/or a diagnostic reagent or container to facilitate the detection of a polynucleotide encoding a prostate tumor protein.

The following Examples are offered by way of illustration and not by way of limitation.

EXAMPLES

EXAMPLE 1

ISOLATION AND CHARACTERIZATION OF PROSTATE TUMOR POLYPEPTIDES

This Example describes the isolation of certain prostate tumor polypeptides from a prostate tumor cDNA library.

A human prostate tumor cDNA expression library was constructed from prostate tumor poly A⁺ RNA using a Superscript Plasmid System for cDNA Synthesis and Plasmid Cloning kit (BRL Life Technologies, Gaithersburg, MD 20897) following the manufacturer's protocol. Specifically, prostate tumor tissues were homogenized with polytron (Kinematica, Switzerland) and total RNA was extracted using Trizol reagent (BRL Life Technologies) as directed by the manufacturer. The poly A⁺ RNA was then purified using a Qiagen oligotex spin column mRNA purification kit (Qiagen, Santa Clarita, CA 91355) according to the manufacturer's protocol. First-strand cDNA was synthesized using the NotI/Oligo-dT18 primer. Double-stranded cDNA was synthesized, ligated with EcoRI/BAXI adaptors (Invitrogen, San Diego, CA) and digested with NotI. Following size fractionation with Chroma Spin-1000 columns (Clontech, Palo Alto, CA), the cDNA was ligated into the EcoRI/NotI site of pCDNA3.1 (Invitrogen) and transformed into ElectroMax *E. coli* DH10B cells (BRL Life Technologies) by electroporation.

Using the same procedure, a normal human pancreas cDNA expression library was prepared from a pool of six tissue specimens (Clontech). The cDNA libraries were characterized by determining the number of independent colonies, the percentage of clones that carried insert, the average insert size and by sequence analysis. The prostate tumor library contained 1.64×10^7 independent colonies, with 70% of clones having an insert and the average insert size being 1745 base pairs. The normal pancreas cDNA library contained 3.3×10^6 independent colonies, with 69% of clones

having inserts and the average insert size being 1120 base pairs. For both libraries, sequence analysis showed that the majority of clones had a full length cDNA sequence and were synthesized from mRNA, with minimal rRNA and mitochondrial DNA contamination.

cDNA library subtraction was performed using the above prostate tumor and normal pancreas cDNA libraries, as described by Hara *et al.* (*Blood*, 84:189-199, 1994) with some modifications. Specifically, a prostate tumor-specific subtracted cDNA library was generated as follows. Normal pancreas cDNA library (70 µg) was digested with EcoRI, NotI, and SfuI, followed by a filling-in reaction with DNA polymerase Klenow fragment. After phenol-chloroform extraction and ethanol precipitation, the DNA was dissolved in 100 µl of H₂O, heat-denatured and mixed with 100 µl (100 µg) of Photoprobe biotin (Vector Laboratories, Burlingame, CA). As recommended by the manufacturer, the resulting mixture was irradiated with a 270 W sunlamp on ice for 20 minutes. Additional Photoprobe biotin (50 µl) was added and the biotinylation reaction was repeated. After extraction with butanol five times, the DNA was ethanol-precipitated and dissolved in 23 µl H₂O to form the driver DNA.

To form the tracer DNA, 10 µg prostate tumor cDNA library was digested with BamHI and XhoI, phenol chloroform extracted and passed through Chroma spin-400 columns (Clontech). Following ethanol precipitation, the tracer DNA was dissolved in 5 µl H₂O. Tracer DNA was mixed with 15 µl driver DNA and 20 µl of 2 x hybridization buffer (1.5 M NaCl/10 mM EDTA/50 mM HEPES pH 7.5/0.2% sodium dodecyl sulfate), overlaid with mineral oil, and heat-denatured completely. The sample was immediately transferred into a 68 °C water bath and incubated for 20 hours (long hybridization [LH]). The reaction mixture was then subjected to a streptavidin treatment followed by phenol/chloroform extraction. This process was repeated three more times. Subtracted DNA was precipitated, dissolved in 12 µl H₂O, mixed with 8 µl driver DNA and 20 µl of 2 x hybridization buffer, and subjected to a hybridization at 68 °C for 2 hours (short hybridization [SH]). After removal of biotinylated double-stranded DNA, subtracted cDNA was ligated into BamHI/XhoI site of chloramphenicol resistant pBCSK⁺ (Stratagene, La Jolla, CA 92037) and transformed into ElectroMax *E.*

coli DH10B cells by electroporation to generate a prostate tumor specific subtracted cDNA library (referred to as "prostate subtraction 1").

To analyze the subtracted cDNA library, plasmid DNA was prepared from 100 independent clones, randomly picked from the subtracted prostate tumor specific library and grouped based on insert size. Representative cDNA clones were further characterized by DNA sequencing with a Perkin Elmer/Applied Biosystems Division Automated Sequencer Model 373A (Foster City, CA). Six cDNA clones, hereinafter referred to as F1-13, F1-12, F1-16, H1-1, H1-9 and H1-4, were shown to be abundant in the subtracted prostate-specific cDNA library. The determined 3' and 5' cDNA sequences for F1-12 are provided in SEQ ID NO: 2 and 3, respectively, with determined 3' cDNA sequences for F1-13, F1-16, H1-1, H1-9 and H1-4 being provided in SEQ ID NO: 1 and 4-7, respectively.

The cDNA sequences for the isolated clones were compared to known sequences in the gene bank using the EMBL and GenBank databases (release 96). Four of the prostate tumor cDNA clones, F1-13, F1-16, H1-1, and H1-4, were determined to encode the following previously identified proteins: prostate specific antigen (PSA), human glandular kallikrein, human tumor expression enhanced gene, and mitochondria cytochrome C oxidase subunit II. H1-9 was found to be identical to a previously identified human autonomously replicating sequence. No significant homologies to the cDNA sequence for F1-12 were found.

Subsequent studies led to the isolation of a full-length cDNA sequence for F1-12. This sequence is provided in SEQ ID NO: 107, with the corresponding predicted amino acid sequence being provided in SEQ ID NO: 108.

To clone less abundant prostate tumor specific genes, cDNA library subtraction was performed by subtracting the prostate tumor cDNA library described above with the normal pancreas cDNA library and with the three most abundant genes in the previously subtracted prostate tumor specific cDNA library: human glandular kallikrein, prostate specific antigen (PSA), and mitochondria cytochrome C oxidase subunit II. Specifically, 1 μ g each of human glandular kallikrein, PSA and mitochondria cytochrome C oxidase subunit II cDNAs in pCDNA3.1 were added to the

driver DNA and subtraction was performed as described above to provide a second subtracted cDNA library hereinafter referred to as the "subtracted prostate tumor specific cDNA library with spike".

Twenty-two cDNA clones were isolated from the subtracted prostate tumor specific cDNA library with spike. The determined 3' and 5' cDNA sequences for the clones referred to as J1-17, L1-12, N1-1862, J1-13, J1-19, J1-25, J1-24, K1-58, K1-63, L1-4 and L1-14 are provided in SEQ ID NOS: 8-9, 10-11, 12-13, 14-15, 16-17, 18-19, 20-21, 22-23, 24-25, 26-27 and 28-29, respectively. The determined 3' cDNA sequences for the clones referred to as J1-12, J1-16, J1-21, K1-48, K1-55, L1-2, L1-6, N1-1858, N1-1860, N1-1861, N1-1864 are provided in SEQ ID NOS: 30-40, respectively. Comparison of these sequences with those in the gene bank as described above, revealed no significant homologies to three of the five most abundant DNA species, (J1-17, L1-12 and N1-1862; SEQ ID NOS: 8-9, 10-11 and 12-13, respectively). Of the remaining two most abundant species, one (J1-12; SEQ ID NO:30) was found to be identical to the previously identified human pulmonary surfactant-associated protein, and the other (K1-48; SEQ ID NO:33) was determined to have some homology to *R. norvegicus* mRNA for 2-arylpropionyl-CoA epimerase. Of the 17 less abundant cDNA clones isolated from the subtracted prostate tumor specific cDNA library with spike, four (J1-16, K1-55, L1-6 and N1-1864; SEQ ID NOS:31, 34, 36 and 40, respectively) were found to be identical to previously identified sequences, two (J1-21 and N1-1860; SEQ ID NOS: 32 and 38, respectively) were found to show some homology to non-human sequences, and two (L1-2 and N1-1861; SEQ ID NOS: 35 and 39, respectively) were found to show some homology to known human sequences. No significant homologies were found to the polypeptides J1-13, J1-19, J1-24, J1-25, K1-58, K1-63, L1-4, L1-14 (SEQ ID NOS: 14-15, 16-17, 20-21, 18-19, 22-23, 24-25, 26-27, 28-29, respectively).

Subsequent studies led to the isolation of full length cDNA sequences for J1-17, L1-12 and N1-1862 (SEQ ID NOS: 109-111, respectively). The corresponding predicted amino acid sequences are provided in SEQ ID NOS: 112-114. L1-12 is also referred to as P501S.

In a further experiment, four additional clones were identified by subtracting a prostate tumor cDNA library with normal prostate cDNA prepared from a pool of three normal prostate poly A+ RNA (referred to as "prostate subtraction 2"). The determined cDNA sequences for these clones, hereinafter referred to as U1-3064, U1-3065, V1-3692 and 1A-3905, are provided in SEQ ID NO: 69-72, respectively. Comparison of the determined sequences with those in the gene bank revealed no significant homologies to U1-3065.

A second subtraction with spike (referred to as "prostate subtraction spike 2") was performed by subtracting a prostate tumor specific cDNA library with spike with normal pancreas cDNA library and further spiked with PSA, J1-17, pulmonary surfactant-associated protein, mitochondrial DNA, cytochrome c oxidase subunit II, N1-1862, autonomously replicating sequence, L1-12 and tumor expression enhanced gene. Four additional clones, hereinafter referred to as V1-3686, R1-2330, 1B-3976 and V1-3679, were isolated. The determined cDNA sequences for these clones are provided in SEQ ID NO:73-76, respectively. Comparison of these sequences with those in the gene bank revealed no significant homologies to V1-3686 and R1-2330.

Further analysis of the three prostate subtractions described above (prostate subtraction 2, subtracted prostate tumor specific cDNA library with spike, and prostate subtraction spike 2) resulted in the identification of sixteen additional clones, referred to as 1G-4736, 1G-4738, 1G-4741, 1G-4744, 1G-4734, 1H-4774, 1H-4781, 1H-4785, 1H-4787, 1H-4796, 1I-4810, 1I-4811, 1J-4876, 1K-4884 and 1K-4896. The determined cDNA sequences for these clones are provided in SEQ ID NOS: 77-92, respectively. Comparison of these sequences with those in the gene bank as described above, revealed no significant homologies to 1G-4741, 1G-4734, 1I-4807, 1J-4876 and 1K-4896 (SEQ ID NOS: 79, 81, 87, 90 and 92, respectively). Further analysis of the isolated clones led to the determination of extended cDNA sequences for 1G-4736, 1G-4738, 1G-4741, 1G-4744, 1H-4774, 1H-4781, 1H-4785, 1H-4787, 1H-4796, 1I-4807, 1J-4876, 1K-4884 and 1K-4896, provided in SEQ ID NOS: 179-188 and 191-193,

respectively, and to the determination of additional partial cDNA sequences for 1I-4810 and 1I-4811, provided in SEQ ID NOS: 189 and 190, respectively.

Additional studies with prostate subtraction spike 2 resulted in the isolation of three more clones. Their sequences were determined as described above and compared to the most recent GenBank. All three clones were found to have homology to known genes, which are Cysteine-rich protein, KIAA0242, and KIAA0280 (SEQ ID NO: 317, 319, and 320, respectively). Further analysis of these clones by Synteni microarray (Synteni, Palo Alto, CA) demonstrated that all three clones were over-expressed in most prostate tumors and prostate BPH, as well as in the majority of normal prostate tissues tested, but low expression in all other normal tissues.

An additional subtraction was performed by subtracting a normal prostate cDNA library with normal pancreas cDNA (referred to as "prostate subtraction 3"). This led to the identification of six additional clones referred to as 1G-4761, 1G-4762, 1H-4766, 1H-4770, 1H-4771 and 1H-4772 (SEQ ID NOS: 93-98). Comparison of these sequences with those in the gene bank revealed no significant homologies to 1G-4761 and 1H-4771 (SEQ ID NOS: 93 and 97, respectively). Further analysis of the isolated clones led to the determination of extended cDNA sequences for 1G-4761, 1G-4762, 1H-4766 and 1H-4772 provided in SEQ ID NOS: 194-196 and 199, respectively, and to the determination of additional partial cDNA sequences for 1H-4770 and 1H-4771, provided in SEQ ID NOS: 197 and 198, respectively.

Subtraction of a prostate tumor cDNA library, prepared from a pool of polyA⁺ RNA from three prostate cancer patients, with a normal pancreas cDNA library (prostate subtraction 4) led to the identification of eight clones, referred to as 1D-4297, 1D-4309, 1D.1-4278, 1D-4288, 1D-4283, 1D-4304, 1D-4296 and 1D-4280 (SEQ ID NOS: 99-107). These sequences were compared to those in the gene bank as described above. No significant homologies were found to 1D-4283 and 1D-4304 (SEQ ID NOS: 103 and 104, respectively). Further analysis of the isolated clones led to the determination of extended cDNA sequences for 1D-4309, 1D.1-4278, 1D-4288, 1D-4283, 1D-4304, 1D-4296 and 1D-4280, provided in SEQ ID NOS: 200-206, respectively.

cDNA clones isolated in prostate subtraction 1 and prostate subtraction 2, described above, were colony PCR amplified and their mRNA expression levels in prostate tumor, normal prostate and in various other normal tissues were determined using microarray technology (Synteni, Palo Alto, CA). Briefly, the PCR amplification products were dotted onto slides in an array format, with each product occupying a unique location in the array. mRNA was extracted from the tissue sample to be tested, reverse transcribed, and fluorescent-labeled cDNA probes were generated. The microarrays were probed with the labeled cDNA probes, the slides scanned and fluorescence intensity was measured. This intensity correlates with the hybridization intensity. Two clones (referred to as P509S and P510S) were found to be over-expressed in prostate tumor and normal prostate and expressed at low levels in all other normal tissues tested (liver, pancreas, skin, bone marrow, brain, breast, adrenal gland, bladder, testes, salivary gland, large intestine, kidney, ovary, lung, spinal cord, skeletal muscle and colon). The determined cDNA sequences for P509S and P510S are provided in SEQ ID NO: 223 and 224, respectively. Comparison of these sequences with those in the gene bank as described above, revealed some homology to previously identified ESTs.

Additional, studies led to the isolation of the full-length cDNA sequence for P509S. This sequence is provided in SEQ ID NO: 332, with the corresponding predicted amino acid sequence being provided in SEQ ID NO: 339.

EXAMPLE 2

DETERMINATION OF TISSUE SPECIFICITY OF PROSTATE TUMOR POLYPEPTIDES

Using gene specific primers, mRNA expression levels for the representative prostate tumor polypeptides F1-16, H1-1, J1-17 (also referred to as P502S), L1-12 (also referred to as P501S), F1-12 (also referred to as P504S) and N1-1862 (also referred to as P503S) were examined in a variety of normal and tumor tissues using RT-PCR.

Briefly, total RNA was extracted from a variety of normal and tumor tissues using Trizol reagent as described above. First strand synthesis was carried out using 1-2 µg of total RNA with SuperScript II reverse transcriptase (BRL Life Technologies) at 42 °C for one hour. The cDNA was then amplified by PCR with gene-specific primers. To ensure the semi-quantitative nature of the RT-PCR, β-actin was used as an internal control for each of the tissues examined. First, serial dilutions of the first strand cDNAs were prepared and RT-PCR assays were performed using β-actin specific primers. A dilution was then chosen that enabled the linear range amplification of the β-actin template and which was sensitive enough to reflect the differences in the initial copy numbers. Using these conditions, the β-actin levels were determined for each reverse transcription reaction from each tissue. DNA contamination was minimized by DNase treatment and by assuring a negative PCR result when using first strand cDNA that was prepared without adding reverse transcriptase.

mRNA Expression levels were examined in four different types of tumor tissue (prostate tumor from 2 patients, breast tumor from 3 patients, colon tumor, lung tumor), and sixteen different normal tissues, including prostate, colon, kidney, liver, lung, ovary, pancreas, skeletal muscle, skin, stomach, testes, bone marrow and brain. F1-16 was found to be expressed at high levels in prostate tumor tissue, colon tumor and normal prostate, and at lower levels in normal liver, skin and testes, with expression being undetectable in the other tissues examined. H1-1 was found to be expressed at high levels in prostate tumor, lung tumor, breast tumor, normal prostate, normal colon and normal brain, at much lower levels in normal lung, pancreas, skeletal muscle, skin, small intestine, bone marrow, and was not detected in the other tissues tested. J1-17 (P502S) and L1-12 (P501S) appear to be specifically over-expressed in prostate, with both genes being expressed at high levels in prostate tumor and normal prostate but at low to undetectable levels in all the other tissues examined. N1-1862 (P503S) was found to be over-expressed in 60% of prostate tumors and detectable in normal colon and kidney. The RT-PCR results thus indicate that F1-16, H1-1, J1-17 (P502S), N1-1862 (P503S) and L1-12 (P501S) are either prostate specific or are expressed at significantly elevated levels in prostate.

Further RT-PCR studies showed that F1-12 (P504S) is over-expressed in 60% of prostate tumors, detectable in normal kidney but not detectable in all other tissues tested. Similarly, R1-2330 was shown to be over-expressed in 40% of prostate tumors, detectable in normal kidney and liver, but not detectable in all other tissues tested. U1-3064 was found to be over-expressed in 60% of prostate tumors, and also expressed in breast and colon tumors, but was not detectable in normal tissues.

RT-PCR characterization of R1-2330, U1-3064 and 1D-4279 showed that these three antigens are over-expressed in prostate and/or prostate tumors.

Northern analysis with four prostate tumors, two normal prostate samples, two BPH prostates, and normal colon, kidney, liver, lung, pancreas, skeletal muscle, brain, stomach, testes, small intestine and bone marrow, showed that L1-12 (P501S) is over-expressed in prostate tumors and normal prostate, while being undetectable in other normal tissues tested. J1-17 (P502S) was detected in two prostate tumors and not in the other tissues tested. N1-1862 (P503S) was found to be over-expressed in three prostate tumors and to be expressed in normal prostate, colon and kidney, but not in other tissues tested. F1-12 (P504S) was found to be highly expressed in two prostate tumors and to be undetectable in all other tissues tested.

The microarray technology described above was used to determine the expression levels of representative antigens described herein in prostate tumor, breast tumor and the following normal tissues: prostate, liver, pancreas, skin, bone marrow, brain, breast, adrenal gland, bladder, testes, salivary gland, large intestine, kidney, ovary, lung, spinal cord, skeletal muscle and colon. L1-12 (P501S) was found to be over-expressed in normal prostate and prostate tumor, with some expression being detected in normal skeletal muscle. Both J1-12 and F1-12 (P504S) were found to be over-expressed in prostate tumor, with expression being lower or undetectable in all other tissues tested. N1-1862 (P503S) was found to be expressed at high levels in prostate tumor and normal prostate, and at low levels in normal large intestine and normal colon, with expression being undetectable in all other tissues tested. R1-2330 was found to be over-expressed in prostate tumor and normal prostate, and to be expressed at lower levels in all other tissues tested. 1D-4279 was found to be over-

expressed in prostate tumor and normal prostate, expressed at lower levels in normal spinal cord, and to be undetectable in all other tissues tested.

Further microarray analysis to specifically address the extent to which P501S (SEQ ID NO: 110) was expressed in breast tumor revealed moderate over-expression not only in breast tumor, but also in metastatic breast tumor (2/31), with negligible to low expression in normal tissues. This data suggests that P501S may be over-expressed in various breast tumors as well as in prostate tumors.

The expression levels of 32 ESTs (expressed sequence tags) described by Vasmatzis *et al.* (*Proc. Natl. Acad. Sci. USA* 95:300-304, 1998) in a variety of tumor and normal tissues were examined by microarray technology as described above. Two of these clones (referred to as P1000C and P1001C) were found to be over-expressed in prostate tumor and normal prostate, and expressed at low to undetectable levels in all other tissues tested (normal aorta, thymus, resting and activated PBMC, epithelial cells, spinal cord, adrenal gland, fetal tissues, skin, salivary gland, large intestine, bone marrow, liver, lung, dendritic cells, stomach, lymph nodes, brain, heart, small intestine, skeletal muscle, colon and kidney. The determined cDNA sequences for P1000C and P1001C are provided in SEQ ID NO: 384 and 472, respectively. The sequence of P1001C was found to show some homology to the previously isolated Human mRNA for JM27 protein. No significant homologies were found to the sequence of P1000C.

The expression of the polypeptide encoded by the full length cDNA sequence for F1-12 (also referred to as P504S; SEQ ID NO: 108) was investigated by immunohistochemical analysis. Rabbit-anti-P504S polyclonal antibodies were generated against the full length P504S protein by standard techniques. Subsequent isolation and characterization of the polyclonal antibodies were also performed by techniques well known in the art. Immunohistochemical analysis showed that the P504S polypeptide was expressed in 100% of prostate carcinoma samples tested (n=5).

The rabbit-anti-P504S polyclonal antibody did not appear to label benign prostate cells with the same cytoplasmic granular staining, but rather with light nuclear staining. Analysis of normal tissues revealed that the encoded polypeptide was found to be expressed in some, but not all normal human tissues. Positive

cytoplasmic staining with rabbit-anti-P504S polyclonal antibody was found in normal human kidney, liver, brain, colon and lung-associated macrophages, whereas heart and bone marrow were negative.

This data indicates that the P504S polypeptide is present in prostate cancer tissues, and that there are qualitative and quantitative differences in the staining between benign prostatic hyperplasia tissues and prostate cancer tissues, suggesting that this polypeptide may be detected selectively in prostate tumors and therefore be useful in the diagnosis of prostate cancer.

EXAMPLE 3

ISOLATION AND CHARACTERIZATION OF PROSTATE TUMOR POLYPEPTIDES BY PCR-BASED SUBTRACTION

A cDNA subtraction library, containing cDNA from normal prostate subtracted with ten other normal tissue cDNAs (brain, heart, kidney, liver, lung, ovary, placenta, skeletal muscle, spleen and thymus) and then submitted to a first round of PCR amplification, was purchased from Clontech. This library was subjected to a second round of PCR amplification, following the manufacturer's protocol. The resulting cDNA fragments were subcloned into the vector pT7 Blue T-vector (Novagen, Madison, WI) and transformed into XL-1 Blue MRF' *E. coli* (Stratagene). DNA was isolated from independent clones and sequenced using a Perkin Elmer/Applied Biosystems Division Automated Sequencer Model 373A.

Fifty-nine positive clones were sequenced. Comparison of the DNA sequences of these clones with those in the gene bank, as described above, revealed no significant homologies to 25 of these clones, hereinafter referred to as P5, P8, P9, P18, P20, P30, P34, P36, P38, P39, P42, P49, P50, P53, P55, P60, P64, P65, P73, P75, P76, P79 and P84. The determined cDNA sequences for these clones are provided in SEQ ID NO: 41-45, 47-52 and 54-65, respectively. P29, P47, P68, P80 and P82 (SEQ ID NO: 46, 53 and 66-68, respectively) were found to show some degree of homology to

previously identified DNA sequences. To the best of the inventors' knowledge, none of these sequences have been previously shown to be present in prostate.

Further studies using the PCR-based methodology described above resulted in the isolation of more than 180 additional clones, of which 23 clones were found to show no significant homologies to known sequences. The determined cDNA sequences for these clones are provided in SEQ ID NO: 115-123, 127, 131, 137, 145, 147-151, 153, 156-158 and 160. Twenty-three clones (SEQ ID NO: 124-126, 128-130, 132-136, 138-144, 146, 152, 154, 155 and 159) were found to show some homology to previously identified ESTs. An additional ten clones (SEQ ID NO: 161-170) were found to have some degree of homology to known genes. Larger cDNA clones containing the P20 sequence represent splice variants of a gene referred to as P703P. The determined DNA sequence for the variants referred to as DE1, DE13 and DE14 are provided in SEQ ID NOS: 171, 175 and 177, respectively, with the corresponding predicted amino acid sequences being provided in SEQ ID NO: 172, 176 and 178, respectively. The determined cDNA sequence for an extended spliced form of P703 is provided in SEQ ID NO: 225. The DNA sequences for the splice variants referred to as DE2 and DE6 are provided in SEQ ID NOS: 173 and 174, respectively.

mRNA Expression levels for representative clones in tumor tissues (prostate (n=5), breast (n=2), colon and lung) normal tissues (prostate (n=5), colon, kidney, liver, lung (n=2), ovary (n=2), skeletal muscle, skin, stomach, small intestine and brain), and activated and non-activated PBMC was determined by RT-PCR as described above. Expression was examined in one sample of each tissue type unless otherwise indicated.

P9 was found to be highly expressed in normal prostate and prostate tumor compared to all normal tissues tested except for normal colon which showed comparable expression. P20, a portion of the P703P gene, was found to be highly expressed in normal prostate and prostate tumor, compared to all twelve normal tissues tested. A modest increase in expression of P20 in breast tumor (n=2), colon tumor and lung tumor was seen compared to all normal tissues except lung (1 of 2). Increased expression of P18 was found in normal prostate, prostate tumor and breast tumor

compared to other normal tissues except lung and stomach. A modest increase in expression of P5 was observed in normal prostate compared to most other normal tissues. However, some elevated expression was seen in normal lung and PBMC. Elevated expression of P5 was also observed in prostate tumors (2 of 5), breast tumor and one lung tumor sample. For P30, similar expression levels were seen in normal prostate and prostate tumor, compared to six of twelve other normal tissues tested. Increased expression was seen in breast tumors, one lung tumor sample and one colon tumor sample, and also in normal PBMC. P29 was found to be over-expressed in prostate tumor (5 of 5) and normal prostate (5 of 5) compared to the majority of normal tissues. However, substantial expression of P29 was observed in normal colon and normal lung (2 of 2). P80 was found to be over-expressed in prostate tumor (5 of 5) and normal prostate (5 of 5) compared to all other normal tissues tested, with increased expression also being seen in colon tumor.

Further studies resulted in the isolation of twelve additional clones, hereinafter referred to as 10-d8, 10-h10, 11-c8, 7-g6, 8-b5, 8-b6, 8-d4, 8-d9, 8-g3, 8-h11, 9-f12 and 9-f3. The determined DNA sequences for 10-d8, 10-h10, 11-c8, 8-d4, 8-d9, 8-h11, 9-f12 and 9-f3 are provided in SEQ ID NO: 207, 208, 209, 216, 217, 220, 221 and 222, respectively. The determined forward and reverse DNA sequences for 7-g6, 8-b5, 8-b6 and 8-g3 are provided in SEQ ID NO: 210 and 211; 212 and 213; 214 and 215; and 218 and 219, respectively. Comparison of these sequences with those in the gene bank revealed no significant homologies to the sequence of 9-f3. The clones 10-d8, 11-c8 and 8-h11 were found to show some homology to previously isolated ESTs, while 10-h10, 8-b5, 8-b6, 8-d4, 8-d9, 8-g3 and 9-f12 were found to show some homology to previously identified genes. Further characterization of 7-G6 and 8-G3 showed identity to the known genes PAP and PSA, respectively.

mRNA expression levels for these clones were determined using the micro-array technology described above. The clones 7-G6, 8-G3, 8-B5, 8-B6, 8-D4, 8-D9, 9-F3, 9-F12, 9-H3, 10-A2, 10-A4, 11-C9 and 11-F2 were found to be over-expressed in prostate tumor and normal prostate, with expression in other tissues tested being low or undetectable. Increased expression of 8-F11 was seen in prostate tumor

and normal prostate, bladder, skeletal muscle and colon. Increased expression of 10-H10 was seen in prostate tumor and normal prostate, bladder, lung, colon, brain and large intestine. Increased expression of 9-B1 was seen in prostate tumor, breast tumor, and normal prostate, salivary gland, large intestine and skin, with increased expression of 11-C8 being seen in prostate tumor, and normal prostate and large intestine.

An additional cDNA fragment derived from the PCR-based normal prostate subtraction, described above, was found to be prostate specific by both microarray technology and RT-PCR. The determined cDNA sequence of this clone (referred to as 9-A11) is provided in SEQ ID NO: 226. Comparison of this sequence with those in the public databases revealed 99% identity to the known gene HOXB13.

Further studies led to the isolation of the clones 8-C6 and 8-H7. The determined cDNA sequences for these clones are provided in SEQ ID NO: 227 and 228, respectively. These sequences were found to show some homology to previously isolated ESTs.

PCR and hybridization-based methodologies were employed to obtain longer cDNA sequences for clone P20 (also referred to as P703P), yielding three additional cDNA fragments that progressively extend the 5' end of the gene. These fragments, referred to as P703PDE5, P703P6.26, and P703PX-23 (SEQ ID NO: 326, 328 and 330, with the predicted corresponding amino acid sequences being provided in SEQ ID NO: 327, 329 and 331, respectively) contain additional 5' sequence. P703PDE5 was recovered by screening of a cDNA library (#141-26) with a portion of P703P as a probe. P703P6.26 was recovered from a mixture of three prostate tumor cDNAs and P703PX_23 was recovered from cDNA library (#438-48). Together, the additional sequences include all of the putative mature serine protease along with part of the putative signal sequence. Further studies using a PCR-based subtraction library of a prostate tumor pool subtracted against a pool of normal tissues (referred to as JP: PCR subtraction) resulted in the isolation of thirteen additional clones, seven of which did not share any significant homology to known GenBank sequences. The determined cDNA sequences for these seven clones (P711P, P712P, novel 23, P774P, P775P, P710P and P768P) are provided in SEQ ID NO: 307-311, 313 and 315, respectively.

The remaining six clones (SEQ ID NO: 316 and 321-325) were shown to share some homology to known genes. By microarray analysis, all thirteen clones showed three or more fold over-expression in prostate tissues, including prostate tumors, BPH and normal prostate as compared to normal non-prostate tissues. Clones P711P, P712P, novel 23 and P768P showed over-expression in most prostate tumors and BPH tissues tested (n=29), and in the majority of normal prostate tissues (n=4), but background to low expression levels in all normal tissues. Clones P774P, P775P and P710P showed comparatively lower expression and expression in fewer prostate tumors and BPH samples, with negative to low expression in normal prostate.

The full-length cDNA for P711P was obtained by employing the partial sequence of SEQ ID NO: 307 to screen a prostate cDNA library. Specifically, a directionally cloned prostate cDNA library was prepared using standard techniques. One million colonies of this library were plated onto LB/Amp plates. Nylon membrane filters were used to lift these colonies, and the cDNAs which were picked up by these filters were denatured and cross-linked to the filters by UV light. The P711P cDNA fragment of SEQ ID NO: 307 was radio-labeled and used to hybridize with these filters. Positive clones were selected, and cDNAs were prepared and sequenced using an automatic Perkin Elmer/Applied Biosystems sequencer. The determined full-length sequence of P711P is provided in SEQ ID NO: 382, with the corresponding predicted amino acid sequence being provided in SEQ ID NO: 383.

Using PCR and hybridization-based methodologies, additional cDNA sequence information was derived for two clones described above, 11-C9 and 9-F3, herein after referred to as P707P and P714P, respectively (SEQ ID NO: 333 and 334). After comparison with the most recent GenBank, P707P was found to be a splice variant of the known gene HoxB13. In contrast, no significant homologies to P714P were found.

Clones 8-B3, P89, P98, P130 and P201 (as disclosed in U.S. Patent Application No. 09/020,956, filed February 9, 1998) were found to be contained within one contiguous sequence, referred to as P705P (SEQ ID NO: 335, with the predicted

amino acid sequence provided in SEQ ID NO: 336), which was determined to be a splice variant of the known gene NKX 3.1.

EXAMPLE 4

SYNTHESIS OF POLYPEPTIDES

Polypeptides may be synthesized on a Perkin Elmer/Applied Biosystems 430A peptide synthesizer using Fmoc chemistry with HPTU (O-Benzotriazole-N,N,N',N'-tetramethyluronium hexafluorophosphate) activation. A Gly-Cys-Gly sequence may be attached to the amino terminus of the peptide to provide a method of conjugation, binding to an immobilized surface, or labeling of the peptide. Cleavage of the peptides from the solid support may be carried out using the following cleavage mixture: trifluoroacetic acid:ethanedithiol:thioanisole:water:phenol (40:1:2:2:3). After cleaving for 2 hours, the peptides may be precipitated in cold methyl-t-butyl-ether. The peptide pellets may then be dissolved in water containing 0.1% trifluoroacetic acid (TFA) and lyophilized prior to purification by C18 reverse phase HPLC. A gradient of 0%-60% acetonitrile (containing 0.1% TFA) in water (containing 0.1% TFA) may be used to elute the peptides. Following lyophilization of the pure fractions, the peptides may be characterized using electrospray or other types of mass spectrometry and by amino acid analysis.

EXAMPLE 5

FURTHER ISOLATION AND CHARACTERIZATION OF PROSTATE TUMOR POLYPEPTIDES BY PCR-BASED SUBTRACTION

A cDNA library generated from prostate primary tumor mRNA as described above was subtracted with cDNA from normal prostate. The subtraction was performed using a PCR-based protocol (Clontech), which was modified to generate larger fragments. Within this protocol, tester and driver double stranded cDNA were

separately digested with five restriction enzymes that recognize six-nucleotide restriction sites (MluI, MscI, PvuII, SalI and StuI). This digestion resulted in an average cDNA size of 600 bp, rather than the average size of 300 bp that results from digestion with RsaI according to the Clontech protocol. This modification did not affect the subtraction efficiency. Two tester populations were then created with different adapters, and the driver library remained without adapters.

The tester and driver libraries were then hybridized using excess driver cDNA. In the first hybridization step, driver was separately hybridized with each of the two tester cDNA populations. This resulted in populations of (a) unhybridized tester cDNAs, (b) tester cDNAs hybridized to other tester cDNAs, (c) tester cDNAs hybridized to driver cDNAs and (d) unhybridized driver cDNAs. The two separate hybridization reactions were then combined, and rehybridized in the presence of additional denatured driver cDNA. Following this second hybridization, in addition to populations (a) through (d), a fifth population (e) was generated in which tester cDNA with one adapter hybridized to tester cDNA with the second adapter. Accordingly, the second hybridization step resulted in enrichment of differentially expressed sequences which could be used as templates for PCR amplification with adaptor-specific primers.

The ends were then filled in, and PCR amplification was performed using adaptor-specific primers. Only population (e), which contained tester cDNA that did not hybridize to driver cDNA, was amplified exponentially. A second PCR amplification step was then performed, to reduce background and further enrich differentially expressed sequences.

This PCR-based subtraction technique normalizes differentially expressed cDNAs so that rare transcripts that are overexpressed in prostate tumor tissue may be recoverable. Such transcripts would be difficult to recover by traditional subtraction methods.

In addition to genes known to be overexpressed in prostate tumor, seventy-seven further clones were identified. Sequences of these partial cDNAs are provided in SEQ ID NO: 29 to 305. Most of these clones had no significant homology to database sequences. Exceptions were JPTPN23 (SEQ ID NO: 231; similarity to pig

valosin-containing protein), JPTPN30 (SEQ ID NO: 234; similarity to rat mRNA for proteasome subunit), JPTPN45 (SEQ ID NO: 243; similarity to rat *norvegicus* cytosolic NADP-dependent isocitrate dehydrogenase), JPTPN46 (SEQ ID NO: 244; similarity to human subclone H8 4 d4 DNA sequence), JP1D6 (SEQ ID NO: 265; similarity to *G. gallus* dynein light chain-A), JP8D6 (SEQ ID NO: 288; similarity to human BAC clone RG016J04), JP8F5 (SEQ ID NO: 289; similarity to human subclone H8 3 b5 DNA sequence), and JP8E9 (SEQ ID NO: 299; similarity to human Alu sequence).

Additional studies using the PCR-based subtraction library consisting of a prostate tumor pool subtracted against a normal prostate pool (referred to as PT-PN PCR subtraction) yielded three additional clones. Comparison of the cDNA sequences of these clones with the most recent release of GenBank revealed no significant homologies to the two clones referred to as P715P and P767P (SEQ ID NO: 312 and 314). The remaining clone was found to show some homology to the known gene KIAA0056 (SEQ ID NO: 318). Using microarray analysis to measure mRNA expression levels in various tissues, all three clones were found to be over-expressed in prostate tumors and BPH tissues. Specifically, clone P715P was over-expressed in most prostate tumors and BPH tissues by a factor of three or greater, with elevated expression seen in the majority of normal prostate samples and in fetal tissue, but negative to low expression in all other normal tissues. Clone P767P was over-expressed in several prostate tumors and BPH tissues, with moderate expression levels in half of the normal prostate samples, and background to low expression in all other normal tissues tested.

Further analysis, by microarray as described above, of the PT-PN PCR subtraction library and of a DNA subtraction library containing cDNA from prostate tumor subtracted with a pool of normal tissue cDNAs, led to the isolation of 27 additional clones (SEQ ID NO: 340-365 and 381) which were determined to be over-expressed in prostate tumor. The clones of SEQ ID NO: 341, 342, 345, 347, 348, 349, 351, 355-359, 361, 362 and 364 were also found to be expressed in normal prostate. Expression of all 26 clones in a variety of normal tissues was found to be low or undetectable, with the exception of P544S (SEQ ID NO: 356) which was found to be

expressed in small intestine. Of the 26 clones, 10 (SEQ ID NO: 340-349) were found to show some homology to previously identified sequences. No significant homologies were found to the clones of SEQ ID NO: 350-365.

EXAMPLE 6

PEPTIDE PRIMING OF MICE AND PROPAGATION OF CTL LINES

6.1. This Example illustrates the preparation of a CTL cell line specific for cells expressing the P502S gene.

Mice expressing the transgene for human HLA A2.1 (provided by Dr L. Sherman, The Scripps Research Institute, La Jolla, CA) were immunized with P2S#12 peptide (VLGWVAEL; SEQ ID NO: 306), which is derived from the P502S gene (also referred to herein as J1-17, SEQ ID NO: 8), as described by Theobald et al., *Proc. Natl. Acad. Sci. USA* 92:11993-11997, 1995 with the following modifications. Mice were immunized with 100µg of P2S#12 and 120µg of an I-A^b binding peptide derived from hepatitis B Virus protein emulsified in incomplete Freund's adjuvant. Three weeks later these mice were sacrificed and using a nylon mesh single cell suspensions prepared. Cells were then resuspended at 6×10^6 cells/ml in complete media (RPMI-1640; Gibco BRL, Gaithersburg, MD) containing 10% FCS, 2mM Glutamine (Gibco BRL), sodium pyruvate (Gibco BRL), non-essential amino acids (Gibco BRL), 2×10^{-5} M 2-mercaptoethanol, 50U/ml penicillin and streptomycin, and cultured in the presence of irradiated (3000 rads) P2S#12-pulsed (5mg/ml P2S#12 and 10mg/ml β2-microglobulin) LPS blasts (A2 transgenic spleens cells cultured in the presence of 7µg/ml dextran sulfate and 25µg/ml LPS for 3 days). Six days later, cells (5×10^5 /ml) were restimulated with 2.5×10^6 /ml peptide pulsed irradiated (20,000 rads) EL4A2Kb cells (Sherman et al, *Science* 258:815-818, 1992) and 3×10^6 /ml A2 transgenic spleen feeder cells. Cells were cultured in the presence of 20U/ml IL-2. Cells continued to be restimulated on a weekly basis as described, in preparation for cloning the line.

P2S#12 line was cloned by limiting dilution analysis with peptide pulsed EL4 A2Kb tumor cells (1×10^4 cells/ well) as stimulators and A2 transgenic spleen cells

as feeders (5×10^5 cells/ well) grown in the presence of 30U/ml IL-2. On day 14, cells were restimulated as before. On day 21, clones that were growing were isolated and maintained in culture. Several of these clones demonstrated significantly higher reactivity (lysis) against human fibroblasts (HLA A2.1 expressing) transduced with P502S than against control fibroblasts. An example is presented in Figure 1.

This data indicates that P2S #12 represents a naturally processed epitope of the P502S protein that is expressed in the context of the human HLA A2.1 molecule.

6.2. This Example illustrates the preparation of murine CTL lines and CTL clones specific for cells expressing the P501S gene.

This series of experiments were performed similarly to that described above. Mice were immunized with the P1S#10 peptide (SEQ ID NO: 337), which is derived from the P501S gene (also referred to herein as L1-12, SEQ ID NO: 110). The P1S#10 peptide was derived by analysis of the predicted polypeptide sequence for P501S for potential HLA-A2 binding sequences as defined by published HLA-A2 binding motifs (Parker, KC, *et al*, *J. Immunol.*, 152:163, 1994). P1S#10 peptide was synthesized as described in Example 4, and empirically tested for HLA-A2 binding using a T cell based competition assay. Predicted A2 binding peptides were tested for their ability to compete HLA-A2 specific peptide presentation to an HLA-A2 restricted CTL clone (D150M58), which is specific for the HLA-A2 binding influenza matrix peptide fluM58. D150M58 CTL secretes TNF in response to self-presentation of peptide fluM58. In the competition assay, test peptides at 100-200 $\mu\text{g/ml}$ were added to cultures of D150M58 CTL in order to bind HLA-A2 on the CTL. After thirty minutes, CTL cultured with test peptides, or control peptides, were tested for their antigen dose response to the fluM58 peptide in a standard TNF bioassay. As shown in Figure 3, peptide P1S#10 competes HLA-A2 restricted presentation of fluM58, demonstrating that peptide P1S#10 binds HLA-A2.

Mice expressing the transgene for human HLA A2.1 were immunized as described by Theobald *et al.* (*Proc. Natl. Acad. Sci. USA* 92:11993-11997, 1995) with the following modifications. Mice were immunized with 62.5 μg of P1S #10 and 120 μg

of an I-A^b binding peptide derived from Hepatitis B Virus protein emulsified in incomplete Freund's adjuvant. Three weeks later these mice were sacrificed and single cell suspensions prepared using a nylon mesh. Cells were then resuspended at 6×10^6 cells/ml in complete media (as described above) and cultured in the presence of irradiated (3000 rads) P1S#10-pulsed ($2\mu\text{g/ml}$ P1S#10 and 10mg/ml $\beta 2$ -microglobulin) LPS blasts (A2 transgenic spleens cells cultured in the presence of $7\mu\text{g/ml}$ dextran sulfate and $25\mu\text{g/ml}$ LPS for 3 days). Six days later cells ($5 \times 10^5/\text{ml}$) were restimulated with $2.5 \times 10^6/\text{ml}$ peptide-pulsed irradiated (20,000 rads) EL4A2Kb cells, as described above, and $3 \times 10^6/\text{ml}$ A2 transgenic spleen feeder cells. Cells were cultured in the presence of 20 U/ml IL-2. Cells were restimulated on a weekly basis in preparation for cloning. After three rounds of *in vitro* stimulations, one line was generated that recognized P1S#10-pulsed Jurkat A2Kb targets and P501S-transduced Jurkat targets as shown in Figure 4.

A P1S#10-specific CTL line was cloned by limiting dilution analysis with peptide pulsed EL4 A2Kb tumor cells (1×10^4 cells/ well) as stimulators and A2 transgenic spleen cells as feeders (5×10^5 cells/ well) grown in the presence of 30U/ml IL-2. On day 14, cells were restimulated as before. On day 21, viable clones were isolated and maintained in culture. As shown in Figure 5, five of these clones demonstrated specific cytolytic reactivity against P501S-transduced Jurkat A2Kb targets. This data indicates that P1S#10 represents a naturally processed epitope of the P501S protein that is expressed in the context of the human HLA-A2.1 molecule.

EXAMPLE 7

ABILITY OF HUMAN T CELLS TO RECOGNIZE PROSTATE TUMOR POLYPEPTIDES

This Example illustrates the ability of T cells specific for a prostate tumor polypeptide to recognize human tumor.

Human CD8⁺ T cells were primed *in vitro* to the P2S-12 peptide (SEQ ID NO: 306) derived from P502S (also referred to as J1-17) using dendritic cells according to the protocol of Van Tsai et al. (*Critical Reviews in Immunology* 18:65-75, 1998). The resulting CD8⁺ T cell microcultures were tested for their ability to recognize the P2S-12 peptide presented by autologous fibroblasts or fibroblasts which were transduced to express the P502S gene in a γ -interferon ELISPOT assay (see Lalvani et al., *J. Exp. Med.* 186:859-865, 1997). Briefly, titrating numbers of T cells were assayed in duplicate on 10⁴ fibroblasts in the presence of 3 μ g/ml human β_2 -microglobulin and 1 μ g/ml P2S-12 peptide or control E75 peptide. In addition, T cells were simultaneously assayed on autologous fibroblasts transduced with the P502S gene or as a control, fibroblasts transduced with HER-2/*neu*. Prior to the assay, the fibroblasts were treated with 10 ng/ml γ -interferon for 48 hours to upregulate class I MHC expression. One of the microcultures (#5) demonstrated strong recognition of both peptide pulsed fibroblasts as well as transduced fibroblasts in a γ -interferon ELISPOT assay. Figure 2A demonstrates that there was a strong increase in the number of γ -interferon spots with increasing numbers of T cells on fibroblasts pulsed with the P2S-12 peptide (solid bars) but not with the control E75 peptide (open bars). This shows the ability of these T cells to specifically recognize the P2S-12 peptide. As shown in Figure 2B, this microculture also demonstrated an increase in the number of γ -interferon spots with increasing numbers of T cells on fibroblasts transduced to express the P502S gene but not the HER-2/*neu* gene. These results provide additional confirmatory evidence that the P2S-12 peptide is a naturally processed epitope of the P502S protein. Furthermore, this also demonstrates that there exists in the human T cell repertoire, high affinity T cells which are capable of recognizing this epitope. These T cells should also be capable of recognizing human tumors which express the P502S gene.

EXAMPLE 8

PRIMING OF CTL *IN VIVO* USING NAKED DNA IMMUNIZATION WITH A PROSTATE ANTIGEN

The prostate tumor antigen L1-12, as described above, is also referred to as P501S. HLA A2Kb Tg mice (provided by Dr L. Sherman, The Scripps Research Institute, La Jolla, CA) were immunized with 100 µg VR10132-P501S either intramuscularly or intradermally. The mice were immunized three times, with a two week interval between immunizations. Two weeks after the last immunization, immune spleen cells were cultured with Jurkat A2Kb-P501S transduced stimulator cells. CTL lines were stimulated weekly. After two weeks of *in vitro* stimulation, CTL activity was assessed against P501S transduced targets. Two out of 8 mice developed strong anti-P501S CTL responses. These results demonstrate that P501S contains at least one naturally processed A2-restricted CTL epitope.

EXAMPLE 9

GENERATION OF HUMAN CTL *IN VITRO* USING WHOLE GENE PRIMING AND STIMULATION TECHNIQUES WITH PROSTATE TUMOR ANTIGEN

Using *in vitro* whole-gene priming with P501S-retrovirally transduced autologous fibroblasts (see, for example, Yee et al, *The Journal of Immunology*, 157(9):4079-86, 1996), human CTL lines were derived that specifically recognize autologous fibroblasts transduced with P501S (also known as L1-12), as determined by interferon-γ ELISPOT analysis as described above. Using a panel of HLA-mismatched fibroblast lines transduced with P501S, these CTL lines were shown to be restricted HLA-A2 class I allele. Specifically, dendritic cells (DC) were differentiated from monocyte cultures derived from PBMC of normal human donors by growing for five days in RPMI medium containing 10% human serum, 50 ng/ml human GM-CSF and 30 ng/ml human IL-4. Following culture, DC were infected overnight with recombinant P501S vaccinia virus at a multiplicity of infection (M.O.I) of five, and matured

overnight by the addition of 3 µg/ml CD40 ligand. Virus was inactivated by UV irradiation. CD8+ T cells were isolated using a magnetic bead system, and priming cultures were initiated using standard culture techniques. Cultures were restimulated every 7-10 days using autologous primary fibroblasts retrovirally transduced with P501S. Following four stimulation cycles, CD8+ T cell lines were identified that specifically produced interferon-γ when stimulated with P501S-transduced autologous fibroblasts. The P501S-specific activity could be sustained by the continued stimulation of the cultures with P501S-transduced fibroblasts in the presence of IL-15. A panel of HLA-mismatched fibroblast lines transduced with P501S were generated to define the restriction allele of the response. By measuring interferon-γ in an ELISPOT assay, the P501S specific response was shown to be restricted by HLA-A2. These results demonstrate that a CD8+ CTL response to P501S can be elicited.

EXAMPLE 10

IDENTIFICATION OF A NATURALLY PROCESSED CTL EPITOPE CONTAINED WITHIN A PROSTATE TUMOR ANTIGEN

The 9-mer peptide p5 (SEQ ID NO: 338) was derived from the P703P antigen (also referred to as P20). The p5 peptide is immunogenic in human HLA-A2 donors and is a naturally processed epitope. Antigen specific CD8+ T cells can be primed following repeated *in vitro* stimulations with monocytes pulsed with p5 peptide. These CTL specifically recognize p5-pulsed target cells in both ELISPOT (as described above) and chromium release assays. Additionally, immunization of HLA-A2 transgenic mice with p5 leads to the generation of CTL lines which recognize a variety of P703P transduced target cells expressing either HLA-A2Kb or HLA-A2. Specifically, HLA-A2 transgenic mice were immunized subcutaneously in the footpad with 100 µg of p5 peptide together with 140 µg of hepatitis B virus core peptide (a Th peptide) in Freund's incomplete adjuvant. Three weeks post immunization, spleen cells from immunized mice were stimulated *in vitro* with peptide-pulsed LPS blasts. CTL activity was assessed by chromium release assay five days after primary *in vitro*

stimulation. Retrovirally transduced cells expressing the control antigen P703P and HLA-A2Kb were used as targets. CTL lines that specifically recognized both p5-pulsed targets as well as P703P-expressing targets were identified.

Human *in vitro* priming experiments demonstrated that the p5 peptide is immunogenic in humans. Dendritic cells (DC) were differentiated from monocyte cultures derived from PBMC of normal human donors by culturing for five days in RPMI medium containing 10% human serum, 50 ng/ml human GM-CSF and 30 ng/ml human IL-4. Following culture, the DC were pulsed with p5 peptide and cultured with GM-CSF and IL-4 together with CD8+ T cell enriched PBMC. CTL lines were restimulated on a weekly basis with p5-pulsed monocytes. Five to six weeks after initiation of the CTL cultures, CTL recognition of p5-pulsed target cells was demonstrated.

EXAMPLE 11

EXPRESSION OF A BREAST TUMOR-DERIVED ANTIGEN IN PROSTATE

Isolation of the antigen B305D from breast tumor by differential display is described in US Patent Application No. 08/700,014, filed August 20, 1996. Several different splice forms of this antigen were isolated. The determined cDNA sequences for these splice forms are provided in SEQ ID NO: 366-375, with the predicted amino acid sequences corresponding to the sequences of SEQ ID NO: 292, 298 and 301-303 being provided in SEQ ID NO: 299-306, respectively.

The expression levels of B305D in a variety of tumor and normal tissues were examined by real time PCR and by Northern analysis. The results indicated that B305D is highly expressed in breast tumor, prostate tumor, normal prostate tumor and normal testes, with expression being low or undetectable in all other tissues examined (colon tumor, lung tumor, ovary tumor, and normal bone marrow, colon, kidney, liver, lung, ovary, skin, small intestine, stomach).

EXAMPLE 12

ELICITATION OF PROSTATE TUMOR ANTIGEN-SPECIFIC CTL RESPONSES IN HUMAN BLOOD

This Example illustrates the ability of a prostate tumor antigen to elicit a CTL response in blood of normal humans.

Autologous dendritic cells (DC) were differentiated from monocyte cultures derived from PBMC of normal donors by growth for five days in RPMI medium containing 10% human serum, 50 ng/ml GMCSF and 30 ng/ml IL-4. Following culture, DC were infected overnight with recombinant P501S-expressing vaccinia virus at an M.O.I. of 5 and matured for 8 hours by the addition of 2 micrograms/ml CD40 ligand. Virus was inactivated by UV irradiation, CD8⁺ cells were isolated by positive selection using magnetic beads, and priming cultures were initiated in 24-well plates. Following five stimulation cycles, CD8⁺ lines were identified that specifically produced interferon-gamma when stimulated with autologous P501S-transduced fibroblasts. The P501S-specific activity of cell line 3A-1 could be maintained following additional stimulation cycles on autologous B-LCL transduced with P501S. Line 3A-1 was shown to specifically recognize autologous B-LCL transduced to express P501S, but not EGFP-transduced autologous B-LCL, as measured by cytotoxicity assays (⁵¹Cr release) and interferon-gamma production (Interferon-gamma Elispot; *see above and Lalvani et al., J. Exp. Med. 186:859-865, 1997*). The results of these assays are presented in Figures 6A and 6B.

EXAMPLE 13

IDENTIFICATION OF PROSTATE TUMOR ANTIGENS BY MICROARRAY ANALYSIS

This Example describes the isolation of certain prostate tumor polypeptides from a prostate tumor cDNA library.

A human prostate tumor cDNA expression library as described above was screened using microarray analysis to identify clones that display at least a three fold over-expression in prostate tumor and/or normal prostate tissue, as compared to non-prostate normal tissues (not including testis). 372 clones were identified, and 319 were successfully sequenced. Table I presents a summary of these clones, which are shown in SEQ ID NOs:385-400. Of these sequences SEQ ID NOs:386, 389, 390 and 392 correspond to novel genes, and SEQ ID NOs: 393 and 396 correspond to previously identified sequences. The others (SEQ ID NOs:385, 387, 388, 391, 394, 395 and 397-400) correspond to known sequences, as shown in Table I.

Table I
Summary of Prostate Tumor Antigens

Known Genes	Previously identified Genes	Novel Genes
T-cell gamma chain	P504S	23379 (SEQ ID NO:389)
Kallikrein	P1000C	23399 (SEQ ID NO:392)
Vector	P501S	23320 (SEQ ID NO:386)
CGI-82 protein mRNA (23319; SEQ ID NO:385)	P503S	23381 (SEQ ID NO:390)
PSA	P510S	
Ald. 6 Dehyd.	P784P	
L-iditol-2 dehydrogenase (23376; SEQ ID NO:388)	P502S	
Ets transcription factor PDEF (22672; SEQ ID NO:398)	P706P	
hTGR (22678; SEQ ID NO:399)	19142.2, bangur.seq (22621; SEQ ID NO:396)	
KIAA0295(22685; SEQ ID NO:400)	5566.1 Wang(23404; SEQ ID NO:393)	
Prostatic Acid Phosphatase(22655; SEQ ID NO:397)	P712P	
transglutaminase (22611; SEQ ID NO:395)	P778P	
HDLBP (23508; SEQ ID NO:394)		
CGI-69 Protein(23367; SEQ ID NO:387)		
KIAA0122(23383; SEQ ID NO:391)		
TEEG		

CGI-82 showed 4.06 fold over-expression in prostate tissues as

compared to other normal tissues tested. It was over-expressed in 43% of prostate tumors, 25% normal prostate, not detected in other normal tissues tested. L-iditol-2 dehydrogenase showed 4.94 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 90% of prostate tumors, 100% of normal prostate, and not detected in other normal tissues tested. Ets transcription factor PDEF showed 5.55 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 47% prostate tumors, 25% normal prostate and not detected in other normal tissues tested. hTGR1 showed 9.11 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 63% of prostate tumors and is not detected in normal tissues tested including normal prostate. KIAA0295 showed 5.59 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 47% of prostate tumors, low to undetectable in normal tissues tested including normal prostate tissues. Prostatic acid phosphatase showed 9.14 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 67% of prostate tumors, 50% of normal prostate, and not detected in other normal tissues tested. Transglutaminase showed 14.84 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 30% of prostate tumors, 50% of normal prostate, and is not detected in other normal tissues tested. High density lipoprotein binding protein (HDLBP) showed 28.06 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 97% of prostate tumors, 75% of normal prostate, and is undetectable in all other normal tissues tested. CGI-69 showed 3.56 fold over-expression in prostate tissues as compared to other normal tissues tested. It is a low abundant gene, detected in more than 90% of prostate tumors, and in 75% normal prostate tissues. The expression of this gene in normal tissues was very low. KIAA0122 showed 4.24 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 57% of prostate tumors, it was undetectable in all normal tissues tested including normal prostate tissues. 19142.2 bangur showed 23.25 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 97% of prostate tumors and 100% of

normal prostate. It was undetectable in other normal tissues tested. 5566.1 Wang showed 3.31 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 97% of prostate tumors, 75% normal prostate and was also over-expressed in normal bone marrow, pancreas, and activated PBMC. Novel clone 23379 showed 4.86 fold over-expression in prostate tissues as compared to other normal tissues tested. It was detectable in 97% of prostate tumors and 75% normal prostate and is undetectable in all other normal tissues tested. Novel clone 23399 showed 4.09 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 27% of prostate tumors and was undetectable in all normal tissues tested including normal prostate tissues. Novel clone 23320 showed 3.15 fold over-expression in prostate tissues as compared to other normal tissues tested. It was detectable in all prostate tumors and 50% of normal prostate tissues. It was also expressed in normal colon and trachea. Other normal tissues do not express this gene at high level.

EXAMPLE 14

IDENTIFICATION OF PROSTATE TUMOR ANTIGENS BY ELECTRONIC SUBTRACTION

This Example describes the use of an electronic subtraction technique to identify prostate tumor antigens.

Potential prostate-specific genes present in the GenBank human EST database were identified by electronic subtraction (similar to that described by Vasmatizis et al., *Proc. Natl. Acad. Sci. USA* 95:300-304, 1998). The sequences of EST clones (43,482) derived from various prostate libraries were obtained from the GenBank public human EST database. Each prostate EST sequence was used as a query sequence in a BLASTN (National Center for Biotechnology Information) search against the human EST database. All matches considered identical (length of matching sequence >100 base pairs, density of identical matches over this region > 70%) were grouped

(aligned) together in a cluster. Clusters containing more than 200 ESTs were discarded since they probably represented repetitive elements or highly expressed genes such as those for ribosomal proteins. If two or more clusters shared common ESTs, those clusters were grouped together into a "supercluster," resulting in 4,345 prostate superclusters.

Records for the 479 human cDNA libraries represented in the GenBank release were downloaded to create a database of these cDNA library records. These 479 cDNA libraries were grouped into three groups, Plus (normal prostate and prostate tumor libraries, and breast cell lines, in which expression was desired), Minus (libraries from other normal adult tissues, in which expression was not desirable), and Other (fetal tissue, infant tissue, tissues found only in women, non-prostate tumors and cell lines other than prostate cell lines, in which expression was considered to be irrelevant). A summary of these library groups is presented in Table II.

Table II
Prostate cDNA Libraries and ESTs

Library	# of Libraries	# of ESTs
Plus	25	43,482
Normal	11	18,875
Tumor	11	21,769
Cell lines	3	2,838
Minus	166	
Other	287	

Each supercluster was analyzed in terms of the ESTs within the supercluster. The tissue source of each EST clone was noted and used to classify the superclusters into four groups: Type 1- EST clones found in the Plus group libraries only; no expression detected in Minus or Other group libraries; Type 2- EST clones found in the Plus and Other group libraries only; no expression detected in the Minus group; Type 3- EST clones found in the Plus, Minus and Other group libraries, but the

expression in the Plus group is higher than in either the Minus or Other groups; and Type 4- EST clones found in Plus, Minus and Other group libraries, but the expression in the Plus group is higher than the expression in the Minus group. This analysis identified 4,345 breast clusters (see Table III). From these clusters, 3,172 EST clones were ordered from Research Genetics, Inc., and were received as frozen glycerol stocks in 96-well plates.

Table III
Prostate Cluster Summary

Type	# of Superclusters	# of ESTs Ordered
1	688	677
2	2899	2484
3	85	11
4	673	0
Total	4345	3172

The inserts were PCR-amplified using amino-linked PCR primers for Synteni microarray analysis. When more than one PCR product was obtained for a particular clone, that PCR product was not used for expression analysis. In total, 2,528 clones from the electronic subtraction method were analyzed by microarray analysis to identify electronic subtraction breast clones that had high tumor vs. normal tissue mRNA. Such screens were performed using a Synteni (Palo Alto, CA) microarray, according to the manufacturer's instructions (and essentially as described by Schena et al., *Proc. Natl. Acad. Sci. USA* 93:10614-10619, 1996 and Heller et al., *Proc. Natl. Acad. Sci. USA* 94:2150-2155, 1997). Within these analyses, the clones were arrayed on the chip, which was then probed with fluorescent probes generated from normal and tumor prostate cDNA, as well as various other normal tissues. The slides were scanned and the fluorescence intensity was measured.

Clones with an expression ratio greater than 3 (*i.e.*, the level in prostate tumor cDNA was at least three times the level in normal prostate cDNA) were

identified as prostate tumor-specific sequences (Table IV). The sequences of these clones are provided in SEQ ID NOs:401-453, with certain novel sequences shown in SEQ ID NOs:407, 413, 416-419, 422, 426, 427 and 450.

Table IV
Prostate-tumor Specific Clones

SEQ ID NO.	Sequence Designation	Comments
401	22545	previously identified P1000C
402	22547	previously identified P704P
403	22548	known
404	22550	known
405	22551	PSA
406	22552	prostate secretory protein 94
407	22553	novel
408	22558	previously identified P509S
409	22562	glandular kallikrein
410	22565	previously identified P1000C
411	22567	PAP
412	22568	B1006C (breast tumor antigen)
413	22570	novel
414	22571	PSA
415	22572	previously identified P706P
416	22573	novel
417	22574	novel
418	22575	novel
419	22580	novel
420	22581	PAP
421	22582	prostatic secretory protein 94
422	22583	novel
423	22584	prostatic secretory protein 94
424	22585	prostatic secretory protein 94
425	22586	known
426	22587	novel
427	22588	novel
428	22589	PAP
429	22590	known
430	22591	PSA
431	22592	known
432	22593	Previously identified P777P

433	22594	T cell receptor gamma chain
434	22595	Previously identified P705P
435	22596	Previously identified P707P
436	22847	PAP
437	22848	known
438	22849	prostatic secretory protein 57
439	22851	PAP
440	22852	PAP
441	22853	PAP
442	22854	previously identified P509S
443	22855	previously identified P705P
444	22856	previously identified P774P
445	22857	PSA
446	23601	previously identified P777P
447	23602	PSA
448	23605	PSA
449	23606	PSA
450	23612	novel
451	23614	PSA
452	23618	previously identified P1000C
453	23622	previously identified P705P

EXAMPLE 15

FURTHER IDENTIFICATION OF PROSTATE TUMOR ANTIGENS BY MICROARRAY ANALYSIS

This Example describes the isolation of additional prostate tumor polypeptides from a prostate tumor cDNA library.

A human prostate tumor cDNA expression library as described above was screened using microarray analysis to identify clones that display at least a three fold over-expression in prostate tumor and/or normal prostate tissue, as compared to non-prostate normal tissues (not including testis). 142 clones were identified and sequenced. Certain of these clones are shown in SEQ ID NOs:454-467. Of these sequences SEQ ID NOs:459-461 correspond to novel genes. The others (SEQ ID NOs:454-458 and 461-467) correspond to known sequences.

EXAMPLE 16
FURTHER CHARACTERIZATION OF PROSTATE TUMOR ANTIGEN P710P

This Example describes the full length cloning of P710P.

The prostate cDNA library described above was screened with the P710P fragment described above. One million colonies were plated on LB/Ampicillin plates. Nylon membrane filters were used to lift these colonies, and the cDNAs picked up by these filters were then denatured and cross-linked to the filters by UV light. The P710P fragment was radiolabeled and used to hybridize with the filters. Positive cDNA clones were selected and their cDNAs recovered and sequenced by an automatic ABI Sequencer. Four sequences were obtained, and are presented in SEQ ID NOs:468-471.

From the foregoing, it will be appreciated that, although specific embodiments of the invention have been described herein for the purposes of illustration, various modifications may be made without deviating from the spirit and scope of the invention. Accordingly, the present invention is not limited except as by the appended claims.

CLAIMS

1. An isolated polypeptide comprising at least an immunogenic portion of a prostate tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:

(a) sequences recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472;

(b) sequences that hybridize to any of the foregoing sequences under moderately stringent conditions; and

(c) complements of any of the sequence of (a) or (b).

2. An isolated polypeptide according to claim 1, wherein the polypeptide comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472, or a complement of any of the foregoing polynucleotide sequences.

3. An isolated polypeptide comprising a sequence recited in any one of SEQ ID NO: 108, 112, 113, 114, 172, 176, 178, 327, 329, 331, 339 and 383.

4. An isolated polynucleotide encoding at least 15 amino acid residues of a prostate tumor protein, or a variant thereof that differs in one or more

substitutions, deletions, additions and/or insertions such that the ability of the variant to react with antigen-specific antisera is not substantially diminished, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide comprising a sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472, or a complement of any of the foregoing sequences.

5. An isolated polynucleotide encoding a prostate tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide comprising a sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472, or a complement of any of the foregoing sequences.

6. An isolated polynucleotide comprising a sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472.

7. An isolated polynucleotide comprising a sequence that hybridizes, under moderately stringent conditions, to a sequence recited in any one of

SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472.

8. An isolated polynucleotide complementary to a polynucleotide according to any one of claims 4-7.

9. An expression vector comprising a polynucleotide according to any one of claims 4-7.

10. A host cell transformed or transfected with an expression vector according to claim 9.

11. An expression vector comprising a polynucleotide according claim 8.

12. A host cell transformed or transfected with an expression vector according to claim 11.

13. A pharmaceutical composition comprising a polypeptide according to claim 1, in combination with a physiologically acceptable carrier.

14. A vaccine comprising a polypeptide according to claim 1, in combination with a non-specific immune response enhancer.

15. A vaccine according to claim 14, wherein the non-specific immune response enhancer is an adjuvant.

16. A vaccine according to claim 14, wherein the non-specific immune response enhancer induces a predominantly Type I response.

17. A pharmaceutical composition comprising a polynucleotide according to claim 4, in combination with a physiologically acceptable carrier.

18. A vaccine comprising a polynucleotide according to claim 4, in combination with a non-specific immune response enhancer.

19. A vaccine according to claim 18, wherein the non-specific immune response enhancer is an adjuvant.

20. A vaccine according to claim 18, wherein the non-specific immune response enhancer induces a predominantly Type I response.

21. An isolated antibody, or antigen-binding fragment thereof, that specifically binds to a prostate tumor protein that comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472 or a complement of any of the foregoing polynucleotide sequences.

22. A pharmaceutical composition comprising an antibody or fragment thereof according to claim 18, in combination with a physiologically acceptable carrier.

23. A pharmaceutical composition comprising an antigen-presenting cell that expresses a polypeptide according to claim 1, in combination with a pharmaceutically acceptable carrier or excipient.

24. A pharmaceutical composition according to claim 23, wherein the antigen presenting cell is a dendritic cell or a macrophage.

25. A vaccine comprising an antigen-presenting cell that expresses a polypeptide according to claim 1, in combination with a non-specific immune response enhancer.

26. A vaccine according to claim 25, wherein the non-specific immune response enhancer is an adjuvant.

27. A vaccine according to claim 25, wherein the non-specific immune response enhancer induces a predominantly Type I response.

28. A vaccine according to claim 25, wherein the antigen-presenting cell is a dendritic cell.

29. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a polypeptide according to claim 1, and thereby inhibiting the development of a cancer in the patient.

30. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a polynucleotide according to claim 4, and thereby inhibiting the development of a cancer in the patient.

31. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of an antibody or antigen-

binding fragment thereof according to claim 21, and thereby inhibiting the development of a cancer in the patient.

32. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of an antigen-presenting cell that expresses a polypeptide according to claim 1, and thereby inhibiting the development of a cancer in the patient.

33. A method according to claim 32, wherein the antigen-presenting cell is a dendritic cell.

34. A method according to any one of claims 29-32, wherein the cancer is prostate cancer.

35. A fusion protein comprising at least one polypeptide according to claim 1.

36. A fusion protein according to claim 35, wherein the fusion protein comprises an expression enhancer that increases expression of the fusion protein in a host cell transfected with a polynucleotide encoding the fusion protein.

37. A fusion protein according to claim 35, wherein the fusion protein comprises a T helper epitope that is not present within the polypeptide of claim 1.

38. A fusion protein according to claim 35, wherein the fusion protein comprises an affinity tag.

39. An isolated polynucleotide encoding a fusion protein according to claim 35.

40. A pharmaceutical composition comprising a fusion protein according to claim 32, in combination with a physiologically acceptable carrier.

41. A vaccine comprising a fusion protein according to claim 35, in combination with a non-specific immune response enhancer.

42. A vaccine according to claim 41, wherein the non-specific immune response enhancer is an adjuvant.

43. A vaccine according to claim 41, wherein the non-specific immune response enhancer induces a predominantly Type I response.

44. A pharmaceutical composition comprising a polynucleotide according to claim 40, in combination with a physiologically acceptable carrier.

45. A vaccine comprising a polynucleotide according to claim 40, in combination with a non-specific immune response enhancer.

46. A vaccine according to claim 45, wherein the non-specific immune response enhancer is an adjuvant.

47. A vaccine according to claim 45, wherein the non-specific immune response enhancer induces a predominantly Type I response.

48. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a pharmaceutical composition according to claim 40 or claim 44.

49. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a vaccine according to claim 41 or claim 45.

50. A method for removing tumor cells from a biological sample, comprising contacting a biological sample with T cells that specifically react with a prostate tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:

(i) polynucleotides recited in any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472; and

(ii) complements of the foregoing polynucleotides;

wherein the step of contacting is performed under conditions and for a time sufficient to permit the removal of cells expressing the prostate tumor protein from the sample.

51. A method according to claim 50, wherein the biological sample is blood or a fraction thereof.

52. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient a biological sample treated according to the method of claim 50.

53. A method for stimulating and/or expanding T cells specific for a prostate tumor protein, comprising contacting T cells with one or more of:

(i) a polypeptide according to claim 1;

(ii) a polypeptide encoded by a polynucleotide comprising a sequence provided in any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472;

(iii) a polynucleotide encoding a polypeptide of (i) or (ii); and/or

- (iv) an antigen presenting cell that expresses a polypeptide of (i) or (ii);
- under conditions and for a time sufficient to permit the stimulation and/or expansion of T cells.

54. An isolated T cell population, comprising T cells prepared according to the method of claim 53.

55. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a T cell population according to claim 54.

56. A method for inhibiting the development of a cancer in a patient, comprising the steps of:

(a) incubating CD4⁺ and/or CD8⁺ T cells isolated from a patient with at least one component selected from the group consisting of:

- (i) a polypeptide according to claim 1;
- (ii) a polypeptide encoded by a polynucleotide comprising a sequence of any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472;
- (iii) a polynucleotide encoding a polypeptide of (i) or (ii); or
- (iv) an antigen-presenting cell that expresses a polypeptide of (i) or (ii);

such that T cells proliferate; and

(b) administering to the patient an effective amount of the proliferated T cells, and thereby inhibiting the development of a cancer in the patient.

57. A method for inhibiting the development of a cancer in a patient, comprising the steps of:

(a) incubating CD4⁺ and/or CD8⁺ T cells isolated from a patient with at least one component selected from the group consisting of:

- (i) a polypeptide according to claim 1;
- (ii) a polypeptide encoded by a polynucleotide comprising a sequence of any one of SEQ ID NOs: 1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472;
- (iii) a polynucleotide encoding a polypeptide of (i) or (ii); or
- (iv) an antigen-presenting cell that expresses a polypeptide of (i) or (ii);

such that T cells proliferate;

- (b) cloning at least one proliferated cell; and
- (c) administering to the patient an effective amount of the cloned T cells, and thereby inhibiting the development of a cancer in the patient.

58. A method for determining the presence or absence of a cancer in a patient, comprising the steps of:

(a) contacting a biological sample obtained from a patient with a binding agent that binds to a prostate tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:

(i) polynucleotides recited in any one of SEQ ID NOs: 1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472; and

(ii) complements of the foregoing polynucleotides;

(b) detecting in the sample an amount of polypeptide that binds to the binding agent; and

(c) comparing the amount of polypeptide to a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient.

59. A method according to claim 58, wherein the binding agent is an antibody.

60. A method according to claim 59, wherein the antibody is a monoclonal antibody.

61. A method according to claim 58, wherein the cancer is prostate cancer.

62. A method for monitoring the progression of a cancer in a patient, comprising the steps of:

(a) contacting a biological sample obtained from a patient at a first point in time with a binding agent that binds to a prostate tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472, or a complement of any of the foregoing polynucleotides;

(b) detecting in the sample an amount of polypeptide that binds to the binding agent;

(c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and

(d) comparing the amount of polypeptide detected in step (c) to the amount detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

63. A method according to claim 62, wherein the binding agent is an antibody.

64. A method according to claim 63, wherein the antibody is a monoclonal antibody.

65. A method according to claim 62, wherein the cancer is a prostate cancer.

66. A method for determining the presence or absence of a cancer in a patient, comprising the steps of:

(a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a prostate tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472, or a complement of any of the foregoing polynucleotides;

(b) detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide; and

(c) comparing the amount of polynucleotide that hybridizes to the oligonucleotide to a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient.

67. A method according to claim 66, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a polymerase chain reaction.

68. A method according to claim 66, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a hybridization assay.

69. A method for monitoring the progression of a cancer in a patient, comprising the steps of:

(a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a prostate tumor

protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472, or a complement of any of the foregoing polynucleotides;

(b) detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide;

(c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and

(d) comparing the amount of polynucleotide detected in step (c) to the amount detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

70. A method according to claim 69, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a polymerase chain reaction.

71. A method according to claim 69, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a hybridization assay.

72. A diagnostic kit, comprising:

(a) one or more antibodies according to claim 21; and

(b) a detection reagent comprising a reporter group.

73. A kit according to claim 72, wherein the antibodies are immobilized on a solid support.

74. A kit according to claim 73, wherein the solid support comprises nitrocellulose, latex or a plastic material.

75. A kit according to claim 72, wherein the detection reagent comprises an anti-immunoglobulin, protein G, protein A or lectin.

76. A kit according to claim 72, wherein the reporter group is selected from the group consisting of radioisotopes, fluorescent groups, luminescent groups, enzymes, biotin and dye particles.

77. An oligonucleotide comprising 10 to 40 nucleotides that hybridize under moderately stringent conditions to a polynucleotide that encodes a prostate tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472, or a complement of any of the foregoing polynucleotides.

78. A oligonucleotide according to claim 77, wherein the oligonucleotide comprises 10-40 nucleotides recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472.

79. A diagnostic kit, comprising:
(a) an oligonucleotide according to claim 77; and
(b) a diagnostic reagent for use in a polymerase chain reaction or hybridization assay.

1/6

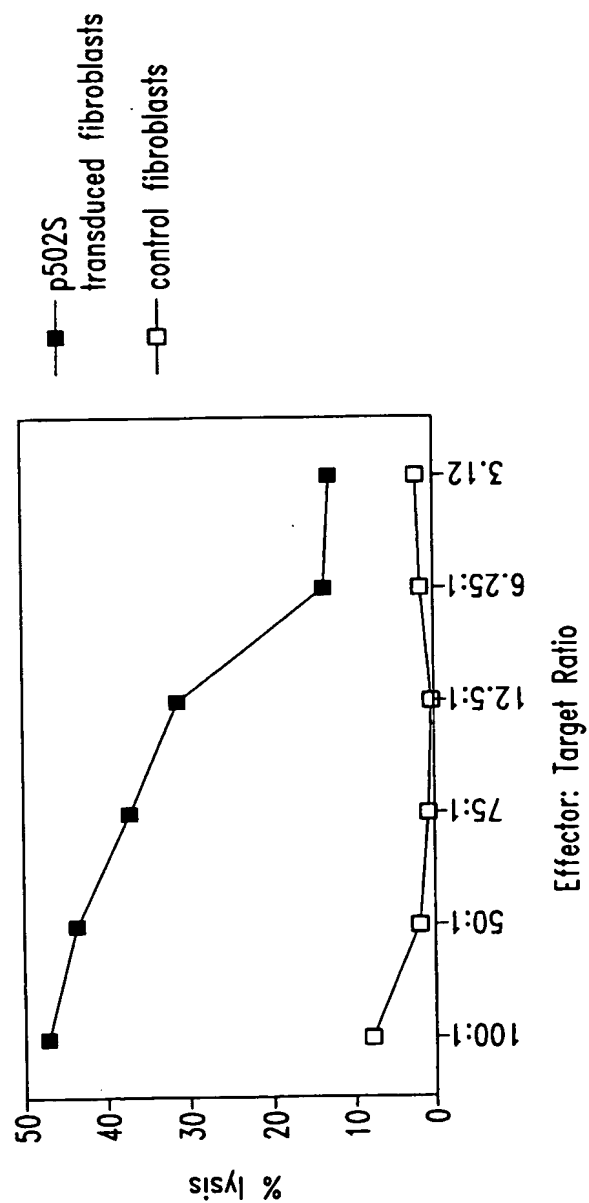
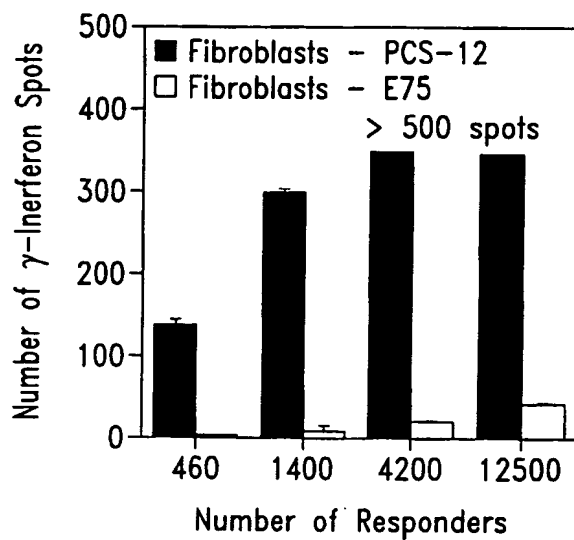
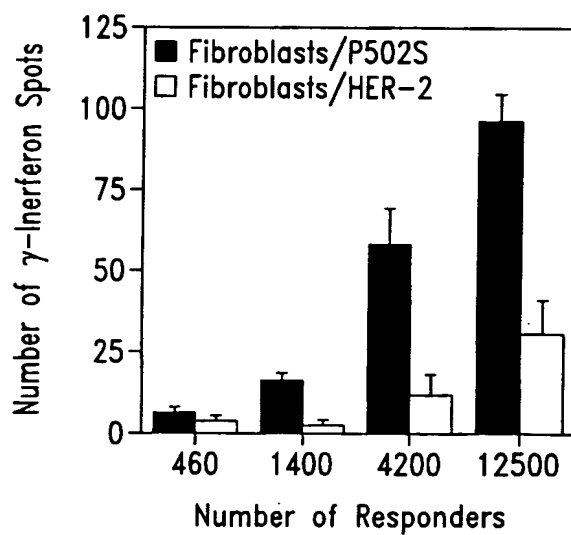


Fig. 1

2/6

*Fig. 2A**Fig. 2B*

3/6

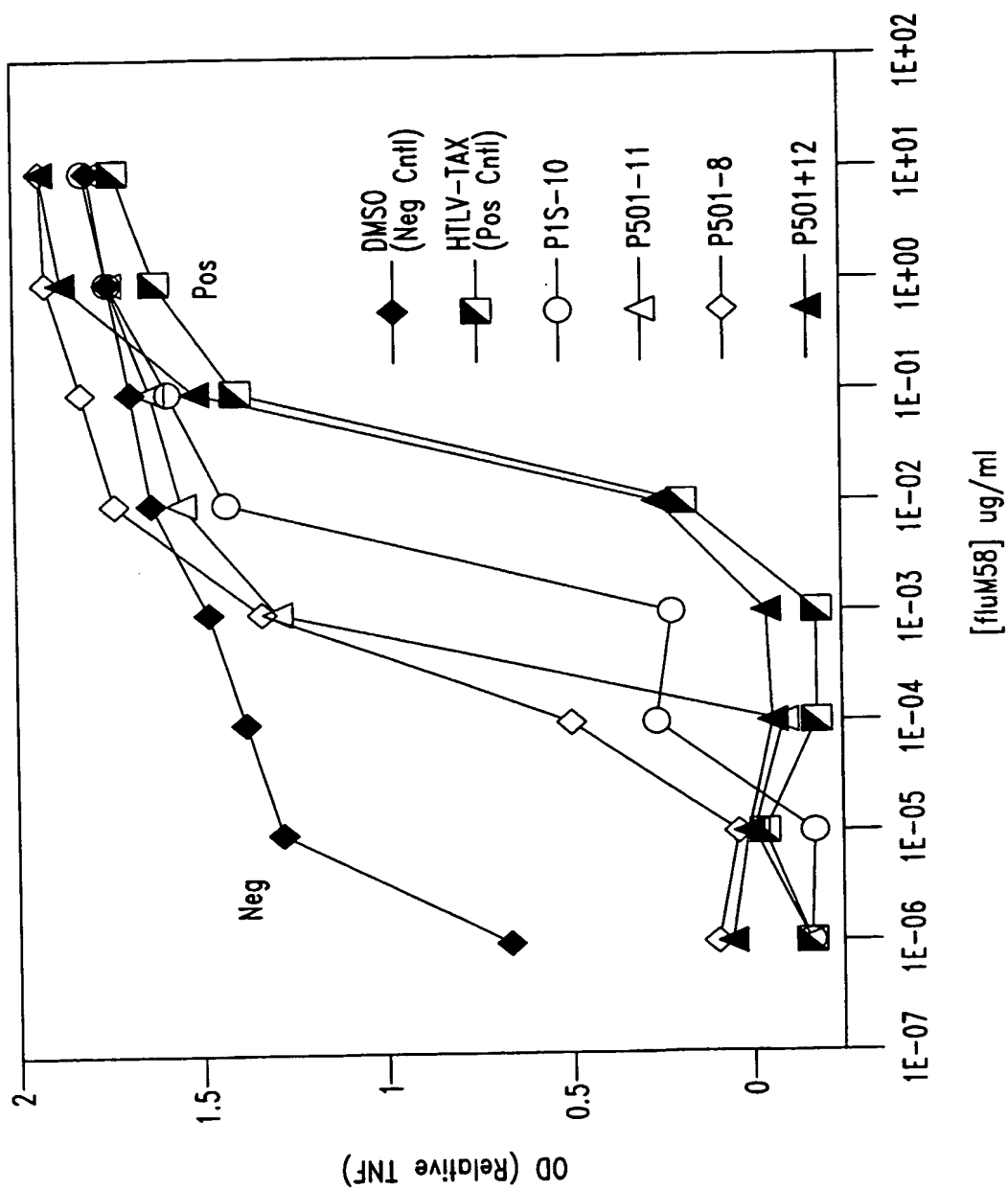


Fig. 3

4/6

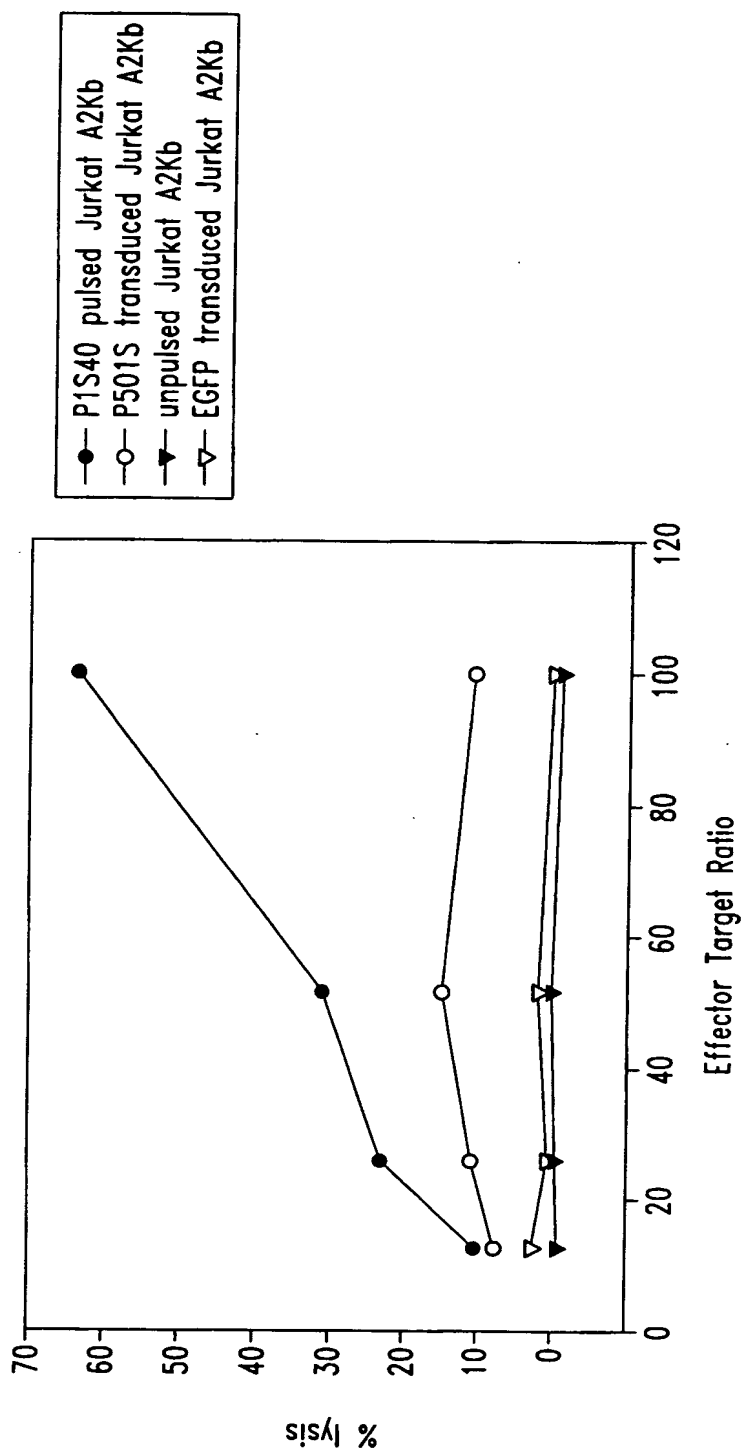
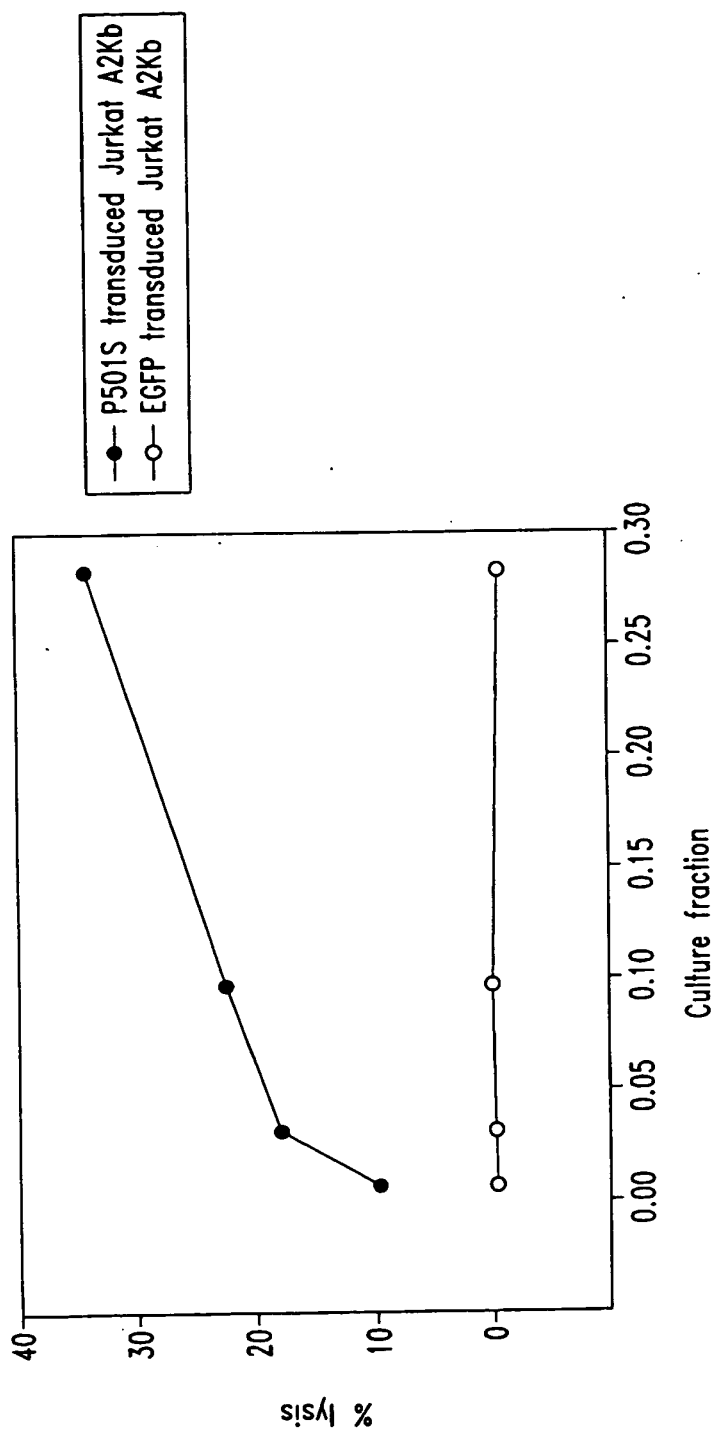
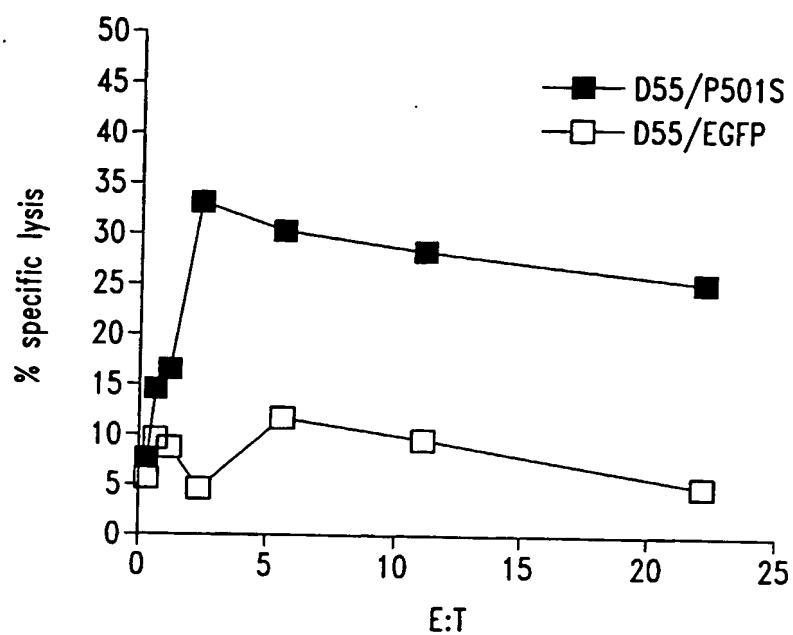
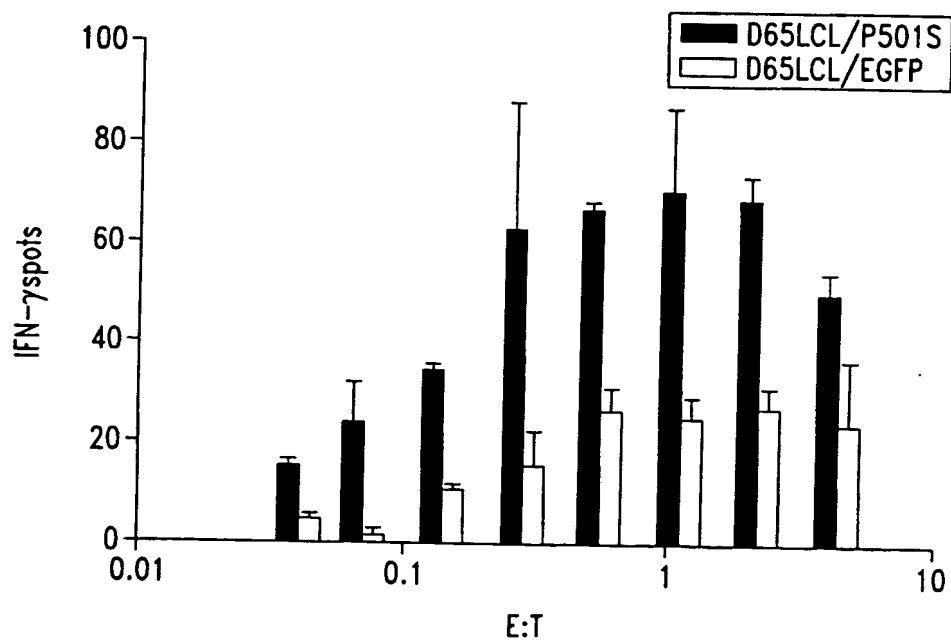


Fig. 4

5/6

*Fig. 5*

6/6

*Fig. 6A**Fig. 6B*

SEQUENCE LISTING

<110> Corixa Corporation et al.

<120> COMPOSITIONS AND METHODS FOR THE THERAPY AND
DIAGNOSIS OF PROSTATE CANCER

<130> 210121.534PC

<140> PCT

<141> 2000-10-04

<160> 476

<170> FastSEQ for Windows Version 3.0

<210> 1

<211> 814

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(814)

<223> n = A,T,C or G

```

<400> 1
tttttttttt tttttcacag tataacagct ctttatttct gtgagttcta ctaggaaatc      60
atcaaactcg aggggtgtct ggaggacttc aatacacctc ccccatagtg gaatcagctt      120
ccaggggggtc cagtccctct ccttacttca tccccatccc atgccaaagg aagaccctcc      180
ctccttggct cacagccttc tctaggcttc ccagtgccctc caggacagag tgggttatgt      240
tttcagctcc atccttgctg tgagtgtctg gtgcgttgtg cctccagctt ctgctcagtg      300
cttcattggac agtgtccagc acatgtcact ctccactctc tcagtgtgga tccactagtt      360
ctagagcggc cgccaccgcg gtggagctcc agcttttgtt cccttttagtg agggttaatt      420
gcgcgcttgg cgtaatcatg gtcataactg tttcctgtgt gaaattgtta tccgctcaca      480
attccacaca acatacgagc cggaagcata aagtgtaaaag cctgggggtgc ctaatgagtg      540
anctaactca cattaattgc gttgcgctca ctgnccgctt tccagtcngg aaaactgtcg      600
tgccagctgc attaatgaat cggccaacgc ncgggggaaaa gcgggtttgcg ttttgggggc      660
tcttcgctt ctcgctcact nantcctgcg ctgcggtcntt cggctgcggg gaacggtatc      720
actcctcaaa ggnnggtatta cggttatccn naaatcnggg gataccnngg aaaaaanttt      780
aacaaaaggg cancaaaggg cngaaacgta aaaa                                814

```

<210> 2

<211> 816

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(816)

<223> n = A,T,C or G

```

<400> 2
acagaaatgt tggatggtgg agcacctttc tatacgactt acaggacagc agatggggaa      60
ttcatggctg ttggagcaat agaaccctag ttctacgagc tgctgatcaa aggacttgga      120
ctaaagtctg atgaacttcc caatcagatg agcatggatg attggccaga aatgaagaag      180
aagtttgcat atgtatttgc aaagaagacg aaggcagagt ggtgtcaaat ctttgacggc      240
acagatgcct gtgtgactcc ggttctgact tttgaggagg ttgttcatca tgatcacaac      300
aaggaacggg gctcgtttat caccagtgag gagcaggacg tgagcccccg ccctgcacct      360
ctgctgttaa acaccctcag catcccttct ttcaaaaggg atccactagt tctagaagcg      420
gccgccaccg cgggtggagct ccagcttttg ttccctttag tgaggggttaa ttgcgcgctt      480

```

ggcgtaatca	tgggtcatagc	tgtttcctgt	gtgaaattgt	tatccgctca	caattccccc	540
aacatacgag	ccggaacata	aagtgttaag	cctgggggtgc	ctaagtantg	agctaactcn	600
cattaattgc	gttgcgctca	ctgcccgtt	tccagtcggg	aaaactgtcg	tgccactgcn	660
ttantgaatc	ngccaccccc	cgggaaaagg	cggttgcntt	ttgggcctct	tccgctttcc	720
tcgctcattg	atcctngcnc	ccggtcttcg	gctgcggnga	acggttcact	cctcaaaggc	780
ggtntnccgg	ttatccccaa	acnggggata	cccnga			816

<210> 3

<211> 773

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(773)

<223> n = A,T,C or G

<400> 3

cttttgaaag	aagggtatggc	tgggggtgttt	aacagcagag	gtgcagggcg	ggggctcacg	60
tcctgtcct	cactggtgat	aaacgagccc	cgttccttgt	tgtgatcatg	atgaacaacc	120
tcctcaaaag	tcagaaccgg	agtcacacag	gcctctgtgc	cgtaaagat	ttgacaccac	180
tctgccttcg	tcttctttgc	aaatacatct	gaaaacttct	tcttcatttc	tggccaatca	240
tccatgctca	tctgattggg	aagttcatca	gacttttagtc	canntccttt	gatcagcagc	300
tcgtagaact	ggggttctat	tgctccaaca	gccatgaatt	ccccatctgc	tgctctgtaa	360
gtcgtataga	aagggtgctcc	accatccaac	atgtttctgtc	ctcgagggggg	ggcccgggtac	420
ccaattcgcc	ctatantgag	tcgtattacg	cgcgctcact	ggccgtcgtt	ttacaacgtc	480
gtgactggga	aaaccctggg	cgttaccaac	ttaatcgccct	tgagcagcat	ccccctttcg	540
ccagctgggc	gtaatancca	aaaggcccgc	accgatcgcc	cttccaacag	ttgcgcacct	600
gaatgggnaa	atgggacccc	cctgttaccg	cgcattnaac	ccccgcnggg	tttngttgtt	660
acccccacnt	nnaccgctta	cactttgccca	gcgccttanc	gcccgcctccc	tttcnctttt	720
cttcctttcc	tttcnncncn	ctttcccccg	gggtttcccc	cntcaaacc	cna	773

<210> 4

<211> 828

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(828)

<223> n = A,T,C or G

<400> 4

cctcctgagt	cctactgacc	tgtgctttct	ggtgtggagt	ccagggctgc	taggaaaagg	60
aatgggcaga	cacaggtgta	tgccaatgtt	tctgaaatgg	gtataatttc	gtcctctcct	120
tcggaacact	ggctgtctct	gaagacttct	cgctcagttt	cagtgaggac	acacacaaag	180
acgtgggtga	ccatgttgtt	tgtgggggtgc	agagatggga	gggggtggggc	ccaccctgga	240
agagtggaca	gtgacacaag	gtggacactc	tctacagatc	actgaggata	agctggagcc	300
acaatgcatg	aggcacacac	acagcaagga	tgacnctgta	aacatagccc	acgctgtcct	360
gngggactg	ggaagcctan	atnaggccgt	gagcanaaaag	aaggggagga	tccactagtt	420
ctanagcggc	cgccaccgcg	gtgganctcc	ancttttgtt	cccttttagtg	aggggttaatt	480
gcgcgcttgg	cnaatcatg	gtcatanctn	tttcctgtgt	gaaattgtta	tccgctcaca	540
attccacaca	acatacganc	cggaacata	aantgtaaac	ctgggggtgcc	taatgantga	600
ctaactcaca	ttaattgcgt	tgcgctcact	gcccgttttc	caatcnggaa	acctgtcttg	660
ccncttgcac	tnatgaatcn	gccaaacccc	gggggaaaagc	gtttgcgttt	tgggcgctct	720
tccgcttcct	cncctantta	ntccctnenc	tcggtcattc	cggtctgcngc	aaaccgggtc	780
accnctcca	aaggggggtat	tccggtttcc	ccnaatccgg	gganancc		828

<210> 5

<211> 834

<212> DNA

<213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(834)
 <223> n = A,T,C or G

<400> 5
 tttttttttt tttttactga tagatggaat ttattaagct tttcacatgt gatagcacat 60
 agttttaatt gcatccaaag tactaacaaa aactctagca atcaagaatg gcagcatggt 120
 attttataac aatcaacacc tgtggctttt aaaatttggt tttcataaga taatttatac 180
 tgaagtaa atagccatgc ttttaaaaaa tgcttttaggt cactccaagc ttggcagtta 240
 acatttgga taaacaataa taaaacaatc acaattta ataaatacaaa tacaacattg 300
 taggccataa tcatatacag tataaggaaa aggtggtagt gttgagtaag cagttattag 360
 aatagaatac cttggcctct atgcaaatat gtctagacac tttgattcac tcagccctga 420
 cattcagttt tcaaaagtagg agacagggtt tacagtatca ttttacagtt tccaacacat 480
 tgaaaaaag tagaaaatga tgagttgatt tttattaatg cattacatcc tcaagagtta 540
 tcaccaaccc ctgagttata aaaaattttc aagttatat agtcatataa cttggtgtgc 600
 ttatttttaa ttagtgctaa atggattaag tgaagacaac aatggtcccc taatgtgatt 660
 gatattggtc atttttacc gcttctaaat ctnaactttc aggccttttga actggaacat 720
 tgnatnacag tgttccanag ttncaacctt ctggaacatt acagtgtgct tgattcaaaa 780
 tgttattttt ttaaaaaatta aattttaacc tgggtggaaa ataatttgaa atna 834

<210> 6
 <211> 818
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(818)
 <223> n = A,T,C or G

<400> 6
 tttttttttt tttttttttt aagaccctca tcaatagatg gagacatata gaaatagtca 60
 aaccacatct acaaaatgcc agtatcaggc ggcggcttcg aagccaaagt gatgtttgga 120
 tgtaaaagtga aatattagtt ggcggatgaa gcagatagtg aggaaagtgt agccaataat 180
 gacgtgaagt ccgtggaagc ctgtggctac aaaaaatgtt gagccgtaga tgccgtcgga 240
 aatggtgaag ggagactcga agtactctga ggcttgtagg agggtaaaat agagaccag 300
 taaaattgta ataagcagtg cttgaattat ttggtttcgg ttgttttcta ttagactatg 360
 gtgagctcag gtgattgata ctctgatgc gagtaatacg gatgtgttta ggagtgggac 420
 ttctagggga tttagcgggg tgatgcctgt tggggggccag tgccctccta gttggggggg 480
 aggggctagg ctggagtggt aaaaggctca gaaaaatcct gcgaagaaaa aaacttctga 540
 ggtaataaat aggattatcc cgtatcgaag gccttttttg acaggtggtg tgtggtggcc 600
 ttggtatgtg ctttctcgtg ttacatcgcg ccattcattgg tatatggtta gtgtgttggg 660
 ttantangg cttantatgaa gaacttttgg antggaatta aatcaatngc ttggccgga 720
 gtcattanga nggctnaaaa ggccctgtta ngggtctggg ctnggtttta cccnaccat 780
 ggaatnccncc ccccggaacna ntgnatccct attcttaa 818

<210> 7
 <211> 817
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(817)
 <223> n = A,T,C or G

<400> 7
 tttttttttt tttttttttt tggctctaga gggggtagag ggggtgctat agggtaaaata 60
 cgggccctat ttcaaagatt tttaggggaa ttaattctag gacgatgggt atgaaactgt 120
 ggttggctcc acagatttca gagcattgac cgtagtatac ccccggtcgt gtagcgggtga 180

aagtggtttg	gttttagacgt	ccgggaattg	catctgtttt	taagccta	gtggggacag	240
ctcatgagtg	caagacgtct	tgtgatgtaa	ttattatacn	aatgggggct	tcaatcggga	300
gtactactcg	attgtcaacg	tcaaggagtc	gcaggtcgcc	tggttctagg	aataatgggg	360
gaagtatgta	ggaattgaag	attaatccgc	cgtagtcggt	gttctcctag	gttcaatacc	420
attgggtggcc	aattgatttg	atggtaaggg	gagggatcgt	tgaactcgtc	tgttatgtaa	480
aggatncctt	ngggatggga	aggcnatnaa	ggactangga	tnaatggcgg	gcangatatt	540
tcaaacngtc	tctanttcct	gaaacgtctg	aaatgtta	aanaattaan	tttngttatt	600
gaatnttng	gaaaagggt	tacaggacta	gaaaccaa	angaaaanta	atnntaangg	660
cnttatcntn	aaaggtnta	accnctccta	tnatccacc	caatngnatt	ccccacncnn	720
acnattggat	nccccanttc	canaaanggc	cnccccccg	tgnannccnc	cttttgttcc	780
cttnantgan	ggttattcnc	ccctngcntt	atcanc			817

<210> 8

<211> 799

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(799)

<223> n = A,T,C or G

<400> 8

catttccggg	tttactttct	aaggaaagcc	gagcgggaagc	tgctaacgtg	ggaatcgggtg	60
cataaggaga	actttctgct	ggcacgcgct	agggacaagc	gggagagcga	ctccgagcgt	120
ctgaagcgca	cgtcccagaa	ggtggacttg	gcactgaaac	agctgggaca	catccgcgag	180
tacgaacagc	gcctgaaagt	gctggagcgg	gaggtccagc	agtgtagccg	cgctcctgggg	240
tgggtggccg	angcctganc	cgctctgcct	tgctgcccc	angtgggccc	ccacccccctg	300
acctgcctgg	gtccaaacac	tgagccctgc	tggcggactt	caagganaac	ccccacangg	360
ggattttgct	cctanantaa	ggctcatctg	ggcctcggcc	ccccacactg	gttggccttg	420
tctttgangt	gagccccatg	tccatctggg	ccactgtcng	gaccaccttt	ngggagtgtt	480
ctccttacia	ccacannatg	cccggctcct	cccggaaacc	antcccancc	tgngaaggat	540
caagnccctg	atccactnnt	nctanaaccg	gccnccnccg	cngtggaacc	cnccttntgt	600
tccttttct	tnagggttaa	tnnccgcttg	gccttnccan	ngtccctncc	ntttccnnt	660
gttnaaattg	ttangcnccc	nccnntcccn	cnnccnnan	cccgaaccnn	annttnnann	720
ncctgggggt	nccnncngat	tgaccncc	nccctntant	tgcnttnggg	nnccntgccc	780
ctttccctct	nggganncg					799

<210> 9

<211> 801

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(801)

<223> n = A,T,C or G

<400> 9

acgccttgat	cctcccaggc	tgggactggt	tctgggagga	gccgggcatg	ctgtggtttg	60
taangatgac	actcccaaag	gtggtcctga	cagtggccca	gatggacatg	gggtcacct	120
caaggacaag	gccaccaggt	gcggggggccg	aagccacat	gatccttact	ctatgagcaa	180
aatccctgtg	gggggcttct	ccttgaagtc	cgccancagg	gctcagtctt	tggacccang	240
caggtcatgt	ggttgnngnc	caactggggg	ccncaacgca	aaanggcnc	gggcctcngn	300
cacccatccc	angacgcggc	tacactnctg	gacctccnc	tccaccactt	tcatgcgctg	360
ttcntaccg	cgatntgtc	ccanctgttt	cngtgcenac	tccancttct	nggacgtgcg	420
ctacatacgc	ccggantcnc	nctcccgtt	tgtccctatc	cacgtncan	caacaaattt	480
cncntantg	caccnatcc	caenttttnc	agntttccnc	nncngcctt	cttntaaaag	540
ggttganc	cggaataatnc	cccaaagggg	gggggcccng	tacccaaactn	ccccctnata	600
gctgaantcc	ccatnaccnn	gnctcnatgg	ancntccnt	tttaannacn	ttctnaactt	660
gggaanance	ctcgncntn	ccccenttaa	tccnccttg	cnangnncnt	cccccnntcc	720
ncccnntng	gcntntnann	cnaaaaaggc	ccnnancaa	tctcctnnen	cctcanttcg	780

801

ccanccctcg aaatcgccn c

<210> 10
 <211> 789
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(789)
 <223> n = A,T,C or G

<400> 10
 cagtctatnt ggccagtgtg gcagctttcc ctgtggctgc cgggtgccaca tgccctgtccc 60
 acagtgtggc cgtgggtgaca gcttcagccg ccctcaccgg gttcaccttc tcagccctgc 120
 agatccctgcc ctacacactg gcctccctct accaccggga gaagcagggtg ttcctgcccc 180
 aataccgagg ggacactgga ggtgctagca gtgaggacag cctgatgacc agcttcctgc 240
 caggccctaa gcctggagct cccttcctta atggacacgt ggggtgctgga ggcagtggcc 300
 tgcctccacc tccaccgcgc ctctgcgggg cctctgcctg tgatgtctcc gtacgtgtgg 360
 tgggtgggtga gcccaccgan gccagggtgg ttccggggccg gggcatctgc ctggacctgc 420
 ccatacctgga tagtgcttcc tgctgtccca ngtgggccca tccctgttta tgggctccat 480
 tgtccagctc agccagtctg tcaactgccta tatggtgtct gccgcaggcc tgggtctggt 540
 cccatttact ttgctacaca ggtantattt gacaagaacg anttggccaa atactcagcg 600
 ttaaaaaatt ccagcaacat tgggggtgga aggcctgcct cactgggtcc aactccccgc 660
 tcctgttaac cccatggggc tgccggcttg gccgccaatt tctgttgctg ccaaantnat 720
 gtggctctct gctgccacct gttgctggct gaagtgcnta cngcncanct nggggggtng 780
 ggngttccc 789

<210> 11
 <211> 772
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(772)
 <223> n = A,T,C or G

<400> 11
 cccaccctac ccaaataatta gacaccaaca cagaaaagct agcaatggat tcccttctac 60
 tttgttaaat aaataagtta aatattttaa tgcctgtgtc tctgtgatgg caacagaagg 120
 accaacaggg cacatcctga taaaaggtaa gaggggggtg gatcagcaaa aagacagtgc 180
 tgtgggctga ggggacctgg ttcttggtgtg ttgcccctca ggactcttcc cctacaaata 240
 actttcatat gttcaaatec catggaggag tgtttcatcc tagaaactcc catgcaagag 300
 ctacattaaa cgaagctgca ggttaagggg cttanagatg ggaaaccagg tgactgagtt 360
 tattcagctc ccaaaaacce ttctctaggt gtgtctcaac taggaggcta gctgttaacc 420
 ctgagcctgg gtaatccacc tgcagagtcc ccgcattcca gtgcatggaa cccttctggc 480
 ctccctgtat aagtccagac tgaaaccccc ttggaaggnc tccagtcagg cagccctana 540
 aactggggaa aaaagaaaag gacgccccan cccccagctg tgcanctacg cacctcaaca 600
 gcacagggtg gcagcaaaaa aaccacttta ctttggcaca aacaaaaact ngggggggca 660
 accccggcac cccnangggg gttaacagga ancngggnaa cntggaacct aattnaggca 720
 ggcccnccac ccnaatntt gctgggaaat ttttctccc ctaaattntt tc 772

<210> 12
 <211> 751
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(751)
 <223> n = A,T,C or G

<400> 12

gccccaatc	cagctgccac	accacccacg	gtgactgcat	tagttcggat	gtcatacaaa	60
agctgattga	agcaaccctc	tacttttttg	tcgtgagcct	tttgcttgg	gcaggtttca	120
ttggctgtgt	tggtgacgtt	gtcattgcaa	cagaatggg	gaaaggcact	gttctctttg	180
aagtanggtg	agtcctcaaa	atccgtatag	ttggtgaagc	cacagcactt	gagccctttc	240
atgggtggtg	tccacacttg	agtgaagtct	tcctgggaac	cataatcttt	cttgatggca	300
ggcactacca	gcaacgtcag	ggaagtgtct	agccattgtg	gtgtacacca	aggcgaccac	360
agcagctgcn	acctcagcaa	tgaagatgan	gaggangatg	aagaagaacg	tcncgagggc	420
acacttgctc	tcagtcttan	caccatanca	gcccctgaaa	accaananca	aagaccacna	480
cnccggctgc	gatgaagaaa	tnaccccneg	ttgacaaact	tgcattggcac	tggganccac	540
agtggccnna	aaaatcttca	aaaaggatgc	cccatcnatt	gaccccccaa	atgcccactg	600
ccaacagggg	ctgccccacn	cncnnaacga	tgancnatt	gnacaagatc	tnctnggtct	660
tnatnaacnt	gaaccctgcn	tngtggctcc	tgttcaggnc	cnnggcctga	cttctnaann	720
aangaactcn	gaagncccca	cngganannc	g			751

<210> 13

<211> 729

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(729)

<223> n = A,T,C or G

<400> 13

gagccaggcg	tccctctgcc	tgcccaactca	gtggcaacac	ccgggagctg	ttttgtcctt	60
tgtggancct	cagcagtncc	ctctttcaga	actcantgcc	aaganccctg	aacaggagcc	120
accatgcagt	gcttcagctt	cattaagacc	atgatgatcc	tcttcaattt	gctcatcttt	180
ctgtgtggtg	cagccctggt	ggcagtgggc	atctgggtgt	caatcgatgg	ggcatccttt	240
ctgaagatct	tcggggccact	gtcgtccagt	gccatgcagt	ttgtcaacgt	gggctacttc	300
ctcatcgagc	ccggcggttg	ggtcttagct	ctaggtttcc	tgggctgcta	tggtgctaag	360
actgagagca	agtgtgcoct	cgtgacgttc	ttcttcatcc	tcctcctcat	cttcattgct	420
gaggttgcaa	tgtgtgggtc	gccttggtgt	acaccacaat	ggctgagcac	ttcctgacgt	480
tgctggtaat	gcctgccatc	aanaaaagat	tatgggttcc	caggaanact	tactcaagt	540
gttggaaacac	caccatgaaa	gggctcaagt	gctgtggctt	cnnccaacta	tacggatttt	600
gaagantcac	ctacttcaaa	gaaaanagt	cctttccccc	atttctgttg	caattgacaa	660
acgtccccaa	cacagccaat	tgaaaacctg	cacccaaccc	aaangggctc	ccaaccanaa	720
attnaagg						729

<210> 14

<211> 816

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(816)

<223> n = A,T,C or G

<400> 14

tgctcttct	caaagtgtgt	cttgttgcca	taacaaccac	cataggtaaa	gcgggagcag	60
tgctcgctga	aggggtgtga	gtaccagcgc	gggatgctct	ccttgacagag	tcctgtgtct	120
ggcaggtcca	cgcagtgccc	tttgtcactg	gggaaatgga	tgcgctggag	ctcgtcaaag	180
ccactcggtg	attttttcaca	ggcagcctcg	tccgacgcgt	cggggcagtt	gggggtgtct	240
tcacactcca	ggaaactgtc	natgcagcag	ccattgctgc	agcgggaactg	ggtgggctga	300
cangtgccag	agcacactgg	atggcgccctt	tccatgnnan	gggccctgng	ggaaagtccc	360
tganccctan	anctgcctct	caaangcccc	accttgacac	ccccgacagg	ctagaatgga	420
atcttcttcc	cgaaggtag	ttnttcttgc	tgcccaancc	anccccntaa	acaaactctt	480
gcanatctgc	tccngggggg	tctantacc	ancgtgggaa	aagaacccca	ggcngcgaac	540
caancttggt	tggatncgaa	gcnataatct	nctnttctgc	ttggtggaca	gcaccantna	600

ctgtnnanct	ttagnccntg	gtcctcntgg	gttgnncttg	aacctaatcn	ccnntcaact	660
gggacaagg	aantngccnt	cctttnaatt	cccnancntn	ccccctgggt	tgggggtttt	720
cncnctccta	ccccagaaan	nccgtgttcc	cccccaacta	ggggccnaaa	ccnnttnttc	780
cacaaccctn	ccccaccac	gggttcngnt	ggttng			816

<210> 15
 <211> 783
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(783)
 <223> n = A,T,C or G

<400> 15						
ccaaggcctg	ggcaggcata	nacttgaagg	tacaacccca	ggaacccctg	gtgctgaagg	60
atgtggaaaa	cacagattgg	cgcctactgc	ggggtgacac	ggatgtcagg	gtagagagga	120
aagacccaaa	ccagggtgaa	ctgtggggac	tcaagggaang	cacctacctg	ttccagctga	180
cagtgcactag	ctcagaccac	ccagaggaca	cggccaacgt	cacagtcaact	gtgctgtcca	240
ccaagcagac	agaagactac	tgcctcgcac	ccaacaangt	gggtcgctgc	cggggctctt	300
tcccacgctg	gtactatgac	cccacggagc	agatctgcaa	gagtttcggt	tatggaggct	360
gcttgggcaa	caagaacaac	taccttcggg	aagaagagt	cattctancc	tgtcnggggtg	420
tgcaagggtg	gcctttgana	ngcanctctg	gggctcangc	gactttcccc	cagggccctt	480
ccatggaaa	gcgccatcca	ntgttctctg	gcacctgtca	gcccacccag	ttccgctgca	540
ncaatggctg	ctgcacnac	antttcctng	aattgtgaca	acacccccca	ntgcccccaa	600
ccctcccaac	aaagcttccc	tgttnaaaaa	tacnccantt	ggcttttnac	aaacnccccg	660
cncctcctt	ttcccnntn	aacaaagggc	nctngcnttt	gaactgccc	aaccnnggaa	720
tctnccnngg	aaaaantncc	ccccctgggt	cctnnaancc	cctccnchna	anctncccc	780
ccc						783

<210> 16
 <211> 801
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(801)
 <223> n = A,T,C or G

<400> 16						
gcccccaattc	cagctgccac	accacccacg	gtgactgcat	tagttcggat	gtcatacaaa	60
agctgattga	agcaaccctc	tacttttttg	tcgtgagcct	tttgcttgg	gcagggtttca	120
ttggctgtgt	tggtgacgtt	gtcattgcaa	cagaatggg	gaaaggcact	gttctctttg	180
aagtaggggtg	agtcctcaaa	atccgtatag	ttgggtgaagc	cacagcactt	gagccctttc	240
atggtggtgt	tccacacttg	agtgaagtct	tcctgggaac	cataatcttt	cttgatggca	300
ggcactacca	gcaacgtcag	gaagtgtcga	gccattgttg	tgtacaccaa	ggcgaccaca	360
gcagctgcaa	cctcagcaat	gaagatgagg	aggaggatga	agaagaacgt	cncgagggca	420
cacttgctct	ccgtcttagc	accatagcag	cccangaaac	caagagcaaa	gaccacaacg	480
ccngctgcga	atgaaagaaa	ntaccacgt	tgacaaactg	catggccact	ggacgacagt	540
tgcccccgaan	atcttcagaa	aagggatgcc	ccatcgattg	aacacccana	tgccactgc	600
cnacagggct	gcncncncn	gaaagaatga	gccattgaag	aaggatontc	ntggctttaa	660
tgaactgaaa	ccntgcatgg	tggccctgt	tcagggtctt	tggcagtga	ttctganaaa	720
aaggaacngc	ntnagcccc	ccaaangana	aaacaccccc	gggtgttgcc	ctgaattggc	780
ggccaaggan	ccctgccccn	g				801

<210> 17
 <211> 740
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(740)
 <223> n = A,T,C or G

<400> 17
 gtgagagcca ggcgtccctc tgccctgccca ctcagtggca acacccggga gctgttttgt 60
 cctttgtgga gcctcagcag ttccctcttt cagaactcac tgccaagagc cctgaacagg 120
 agccaccatg cagtgtctca gcttcattaa gaccatgatg atcctcttca atttgctcat 180
 ctttctgtgt ggtgcagccc tgttggcagt gggcatctgg gtgtcaatcg atggggcatc 240
 ctttctgaag atcttcgggc cactgtcgtc cagtgccatg cagtttgtca acgtgggcta 300
 cttcctcatc gcagccggcg ttgtggctctt tgctcttggg ttccctgggct gctatgggtg 360
 taagacggag agcaagtgtg ccctcgtgac gttcttcttc atcctcctcc tcatcttcat 420
 tgctgaagtt gcagctgctg tggtcgcctt ggtgtacacc acaatggctg aaccattcct 480
 gacgttgctg gtantgcctg ccatcaanaa agattatggg ttcccaggaa aaattcactc 540
 aantntggaa caccnccatg aaaagggctc caatttctgn tggcttcccc aactataccg 600
 gaattttgaa agantcnccc tacttccaaa aaaaaanant tgccttttnc cccnttctgt 660
 tgcaatgaaa acntcccaan acngccaatn aaaacctgcc cnnncaaaaa ggntcncaaa 720
 caaaaaaant nnaagggttn 740

<210> 18
 <211> 802
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(802)
 <223> n = A,T,C or G

<400> 18
 ccgctgggtg cgtgtgtcca gngnagccac gaagcacgtc agcatacaca gcctcaatca 60
 caaggtcttc cagctgccgc acattacgca gggcaagagc ctccagcaac actgcatatg 120
 ggatacactt tacttttagca gccagggtga caactgagag gtgtcgaagc ttattcttct 180
 gagcctctgt tagtggagga agattccggg cttcagctaa gtagtcagcg tatgtcccat 240
 aagcaaacac tgtgagcagc cggaaggtag aggcaaagtc actctcagcc agctctctaa 300
 cattgggcat gtccagcagt tctccaaaca cgtagacacc agnggcctcc agcacctgat 360
 ggatgagtgt ggccagcgtt gccccttgg ccgacttggc taggagcaga aattgctcct 420
 ggttctgccc tgtcaccttc acttccgcac tcatcactgc actgagtgtg ggggacttgg 480
 gctcaggatg tccagagacg tggttccgcc cctcncctta atgacaccgn ccanncaacc 540
 gtcggctccc gccgantgng ttcgtcgtnc ctgggtcagg gtctgctggc cnctacttgc 600
 aanccttcgtc nggcccattg aattcaccnc accggaactn gtangatcca ctntttctat 660
 aaccggnccg caccgcnntt ggaactccac tcttnttnc tttacttgag ggtaaggtc 720
 accctttnccg ttaccttggg tcaaacctn cctgtgtgct anantngtnaa tcnngnccna 780
 tnccancnc atangaagcc ng 802

<210> 19
 <211> 731
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(731)
 <223> n = A,T,C or G

<400> 19
 cnaagcttcc aggtnacggg ccgcnaancc tgaccnagg tancanaang cagnncgagg 60
 gagcccaccg tcacgnngng gngtctttat nggagggggc ggagccacat cnetggacnt 120
 cntgacccca actccccncc ncnantgca gtgatgagt cagaactgaa ggtnacgtgg 180
 caggaaccaa gancaaannc tgctcnnct caagtcggcn nagggggcgg ggctggccac 240
 gcncatcct cnagtgtgn aaagcccn cctgtctact tgtttggaga acngcnnga 300

```

catgcccagn gttanataac nggcngagag tnannttgcc tctcccttcc ggctgcgcan 360
cgngtntgct tagnggacat aacctgacta cttaactgaa cccnngaate tncnccccct 420
ccactaagct cagaacaaaa aacttcgaca ccactcantt gtcacctgnc tgctcaagta 480
aagtgtaccc catncccaat gtntgctnga ngctctgncc tgcnttangt tcggtcctgg 540
gaagacctat caattnaagc tatgtttctg actgcctctt gctccctgna acaancnacc 600
cnnnntcca aggggggggnc ggcccccaat ccccccaacc ntnaattnan tttancccn 660
ccccnggcc cggcctttta cnancntcnn nnacngggna aaaccnnngc ttncccaac 720
nnaatccncc t 731

```

```

<210> 20
<211> 754
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(754)
<223> n = A,T,C or G

```

```

<400> 20
tttttttttt tttttttttt taaaaacccc ctccattnaa tgnaaacttc cgaaattgtc 60
caacccccctc ntccaaatnn ccntttccgg gnggggggttc caaacccaan ttanntttgg 120
annttaaatt aaatnttntt tggnggnna anccnaatgt nangaaagt naaccanta 180
tnancttnaa tncctggaaa ccngtngntt ccaaaaatnt ttaaccctta antccctccg 240
aaatngttta nggaaaaccc aanttctcnt aagggtgttt gaaggntnaa tnaaaanccc 300
nnccaattgt ttttngccac gcctgaatta attggnnttc gntgttttcc nttaaaanaa 360
ggnnancccc ggttantnaa tcccccnnc cccaattata ccganttttt ttngaattgg 420
gancccnccg gaattaacgg ggnnnntccc tnttgggggg cnggnncccc ccccntcggg 480
ggttngggnc aggnccnaat tgtttaaggg tccgaaaaat ccctccnaga aaaaaanctc 540
ccaggntgag nntnggggtt ncccccccc canggccct ctcgnanagt tgggggttgg 600
ggggcctggg attttnttcc cccntttnc tcccccccc ccnggganag aggttngngt 660
tttgntcnn ggcccnccn aaganctttn ccganttnan ttaaatecnt gcctnggcga 720
agtcctntgn agggntaaan ggccccctnn cggg 754

```

```

<210> 21
<211> 755
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(755)
<223> n = A,T,C or G

```

```

<400> 21
atcancccat gaccccnac nngggaccnc tcanccggnc nnncnaccnc cgcccnatca 60
nngtnagnnc actncnnttn natcacnccc cncnactac gcccnanc cnacgccta 120
nncanatncc actganngcg cgangtngan ngagaaanct nataccanag ncaccanacn 180
ccagctgtcc nanaangcct nnnatacnng nnnatccaat ntgnancctc cnaagtattn 240
nncnncanat gattttcctn anccgattac ccntncccc tanccctcc cccccaacna 300
cgaaggcnct ggnccnaagg nngcgncc ccgctagntc cccnncaagt cncncccta 360
aactcanccn nattacnccg ttctngagta tcaactcccc aatctcacc tactcaactc 420
aaaaanaten gatacaaat aatncaagcc tgnttatnac actntgactg ggtctctatt 480
ttagnngtcc ntnaancntc ctaatacttc cagtctncc tcnccaattt ccnaanggct 540
ctttcngaca gcatnttttg gttcccnntt ggggttcttan ngaattgcc ttctnngaac 600
gggctcntct tttccttcgg ttancctggn ttcnccggc cagttattat ttccntttt 660
aaattcntnc cntttanttt tggcnttcna aacccccggc cttgaaaacg gccccctggt 720
aaaaggttgt tttganaaaa tttttgtttt gttcc 754

```

```

<210> 22
<211> 849
<212> DNA

```

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(849)

<223> n = A,T,C or G

<400> 22

tttttttttt	tttttangtg	tngtcgtgca	ggtagaggct	tactacaant	gtgaanacgt	60
acgctnggan	taangcgacc	cgantttctag	gannncnccct	aaaatcanac	tgtgaagatn	120
atcctgnnna	cggaanggtc	accggnggat	nntgctaggg	tgncnctcc	cannncnttn	180
cataactcng	nggccctgcc	caccaccttc	ggcggcccng	ngnccgggcc	cgggtcattn	240
gnnttaaccn	cactnngcna	ncggtttccn	nccccnncng	accnnggcga	tccgggggtnc	300
tctgtcttcc	cctgnagncn	anaaantggg	ccnccggnccc	ctttaccctc	nnacaagcca	360
engccntcta	nccnngccc	cccctccant	nnggggggact	gccnannngct	ccgttntctng	420
nnaccccnnn	gggtncctcg	gttgtcgant	cnaccgnang	ccanggatc	cnaaggaagg	480
tgcgttnttg	ggccctaccc	ttcgctncgg	nncacccttc	ccgacnanga	nccgctccccg	540
cncnccgngg	cctcncctcg	caacacccgc	nctctcngt	ncggnnnccc	ccccaccgcg	600
nccctcncnc	ngnccgnancn	ctccnccncc	gtctcannca	ccaccccgcc	ccgccaggcc	660
ntcanccacn	ggnggacnng	nagcncnntc	gcnccgccn	gcgncnccct	cgccncngaa	720
ctnctcngg	ccantnnccg	tcaanccnna	cnaaacgcgg	ctgcgcggcc	cgnagcgnc	780
ncctccncca	gtcctcccg	cttcnacc	angnttccn	cgaggacacn	nnaccccgcc	840
nncangcgg						849

<210> 23

<211> 872

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(872)

<223> n = A,T,C or G

<400> 23

gcgcaaaacta	tacttcgctc	gnactcgtgc	gcctcgctnc	tcttttcctc	cgcaaccatg	60
tctgacnanc	ccgattnggc	ngatatenan	aagntcganc	agtccaaact	gantaacaca	120
cacacncnan	aganaaatcc	nctgccttcc	anagtanacn	attgaacnng	agaaccangc	180
nggcgaatcg	taatnaggcg	tgcgcgcgcca	atntgtcncc	gtttattntn	ccagctcnc	240
ctnccnacc	tactcttctn	nagctgtcnn	acccctngtn	cgnaccccc	naggtcggga	300
tgcgggtttn	nntgaccgng	cnnccctcc	cccctccat	nacganccnc	ccgcaccacc	360
nanngcncgc	nccccgnnet	cttcgcnc	ctgtcctntn	cccctgtngc	ctggcncngn	420
accgcattga	ccctcgccnn	ctncnngaaa	ncgnanacgt	ccgggttggn	annancgctg	480
tgggnnngcg	tctgcncgc	gttccttccn	ncncttcca	ccatcttctn	tacnnggtct	540
ccnccgctc	tcnnncacnc	cctgggaagc	tnctctntgc	cccccttnac	tccccctt	600
cgncgtgncc	cgnccccacc	ntcatttnca	nacgntcttc	acaannncct	ggntnnctcc	660
cnancngncn	gtcanccnag	ggaagggngg	ggnnccnntg	nttgacgttg	nggngangtc	720
cgaanantcc	tcnccntcan	cncctaccc	cgggcgnnet	ctengttnc	aacttancaa	780
ntctcccccg	ngngcncntc	tcagcctcnc	ccncccnct	ctctgcantg	tnctctgctc	840
tnaccnntac	gantnttcgn	cncctctt	cc			872

<210> 24

<211> 815

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(815)

<223> n = A,T,C or G

<400> 24

gcatgcaagc	ttgagtattc	tatagngtca	cctaaatanc	ttggcntaat	catggtcnta	60
nctgncttcc	tgtgtcaaat	gtatacnaan	tanatatgaa	tctnatntga	caaganngta	120
tcntncatta	gtaacaantg	tnntgtccat	cctgtcngan	canattccca	tnnattnnng	180
cgcattnnnc	gncantatn	taatnnggaa	ntcnntnnn	ncaccnncat	ctatcntncc	240
gcnccctgac	tggnagagat	ggatnanttc	tnntntgacc	nacatgttca	tcttggattn	300
aananccccc	cgcngnccac	cgggtngnng	cnagccnntc	ccaagacctc	ctgtggaggt	360
aacctgcgtc	aganncatca	aacntgggaa	acccgcnncc	angtnnaagt	ngnnnncan	420
gatcccgtcc	aggnttnacc	atcccttcnc	agcgccccct	ttngtgcctt	anagnnagc	480
gtgtccnanc	cntcaacat	ganacgcgcc	agnccanccg	caattnggca	caatgtcgnc	540
gaaccccccta	gggggagnta	tncaaanccc	caggattgtc	cncncangaa	atcccnanc	600
ccnccctac	ccnctttgg	gacngtgacc	aantcccga	gtncacgtcc	ggccngnctc	660
ccccaccggt	nccntgggg	gggtgaanct	cngnntcanc	cngncgaggn	ntcgnaagga	720
accggncctn	ggncgaanng	ancnntcnga	agnccnntc	cgtataaccc	cccctcncca	780
nccnacngnt	agntcccccc	cngggtncgg	aangg			815

<210> 25

<211> 775

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(775)

<223> n = A,T,C or G

<400> 25

ccgagatgtc	tcgctccgtg	gccttagctg	tgctcgcgct	actctctctt	tctggcctgg	60
aggctatcca	gcgtactcca	aagattcagg	tttactcacg	tcatccagca	gagaatggaa	120
agtcaaattt	cctgaattgc	tatgtgtctg	ggtttcatcc	atccgacatt	gaanttgact	180
tactgaagaa	tggnagaga	attgaaaaag	tgagcattc	agacttgtct	ttcagcaagg	240
actgtctctt	ctatctcntg	tactacactg	aattcacccc	cactgaaaaa	gatgagtatg	300
cctgccgtgt	gaaccatgtg	actttgtcac	agcccaagat	agttaagtgg	gatcgagaca	360
tgtaagcagn	cnncatggaa	gtttgaagat	gccgcatttg	gattggatga	attccaaatt	420
ctgcttgctt	gcnttttaat	antgatatgc	ntatacaccc	taccctttat	gnccccaatt	480
tgtaggggtt	acatnantgt	tcnctnngga	catgatcttc	ctttataant	ccnccnttcg	540
aattgcccggt	cncccnngtn	ngaattgttc	cnnaaccacg	gttggctccc	ccaggtcncc	600
tcttacggaa	gggcctgggc	cnctttncaa	gggtggggga	accnaaaatt	tcncttntgc	660
ccncccncca	cnntcttgng	nnncantttt	ggaacccttc	cnattccccct	tggcctcnna	720
nccttnncta	anaaaacttn	aaancgtngc	naaanntttt	acttcccccc	ttacc	775

<210> 26

<211> 820

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(820)

<223> n = A,T,C or G

<400> 26

anattantac	agtgtaatct	tttcccagag	gtgtgtanag	ggaacggggc	ctagaggcat	60
cccanagata	ncttatanca	acagtgtctt	gaccaagagc	tgctgggcac	atttcttgca	120
gaaaagggtg	cggtccccc	cactcctcct	ctcccatagc	catcccagag	gggtgagtag	180
ccatcangcc	ttcggtggga	gggagtcang	gaaacaacan	accacagagc	anacagacca	240
ntgatgacca	tgggcgggag	cgagcctctt	ccctgnaccg	gggtggcana	nganagccta	300
nctgaggggt	cacactataa	acgttaacga	ccnagatnan	cacctgcttc	aagtgcaccc	360
ttcctacctg	acnaccagng	accnnnaact	gcnccctggg	gacagcnctg	ggancagcta	420
acnnagcact	cacctgcccc	cccatggccg	tnccgntccc	tggtcctgnc	aagggaagct	480
ccctgttgga	attncgggga	naccaaggga	nccccctcct	ccanctgtga	aggaaaaann	540
gatggaattt	tncccttcgg	gcnntcccc	tcttctctta	cacgccccct	nnctactctc	600
tccctctntt	ntcctgncnc	acttttnacc	ccnnnatctc	ccttnattga	tcggannctn	660

ganattccac tnnccctcnc cntcnatcng naanacnaaa nactntctna ccnnggggat 720
 gggnnccctcg ntcacccctct ctttttctcct accnccnntt ctttgccctct ccttngatca
 780tccaaccntc gntggccntn cccccccnnn tccttttccc
 820

<210> 27
 <211> 818
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(818)
 <223> n = A,T,C or G

<400> 27
 tctgggtgat ggcctcttcc tcctcagggg cctctgactg ctctgggcca aagaatctct 60
 tgtttcttct ccgagcccca ggcagcgggt attcagccct gcccaacctg attctgatga 120
 ctgaggatgc tgtgacggac ccaaggggca aatagggtcc caggggtccag ggaggggcgc 180
 ctgctgagca ctccgcgcc tcacctgcc cagccctgc catgagctct gggctgggtc 240
 tccgcctcca gggttctgct cttccangca ngccancaaag tggcgctggg ccacactggc 300
 ttcttctgc ccntccctg gctctganc tctgtcttcc tgtcctgtgc angcnccttg 360
 gatctcagtt tccctcncctc anngaactct gtttctgann tcttcantta actntgantt 420
 tatnaccnan tggnetgtnc tgtcnnactt taatgggccc gaccggctaa tccctccctc 480
 nctcccttcc anttcnnna accngcttnc cntctctcc cntancccg ccnggggaanc 540
 ctcccttgcc ctnaccang gcccnnaccg cccntnnctn ggggggcnng gtnnctnenc 600
 ctgntncccc cncctcncnt tncctcgctc cncnncgc nngcannttc ncngtcccn 660
 tnnctcttcn ngntcgnaa ngntcncntn tnnnnngncn ngntnntnnc tccctctcnc 720
 cnnntgnang tnnntnnnc ncngncccc nnnncnnnn nggnntnnn tctnncncgc 780
 cccnncccc ngnattaagg cctccnntct ccggccnc 818

<210> 28
 <211> 731
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(731)
 <223> n = A,T,C or G

<400> 28
 aggaaggcg gagggatatt gtangggatt gagggatagg agnataangg gggaggtgtg 60
 tcccaacatg anggtgnngt tctcttttga angagggttg ngtttttann ccnggtgggt 120
 gattnaaccc cattgtatgg agnnaaaggn ttttagggat ttttcggctc ttatcagtat 180
 ntanattcct gtnaatcgga aaatnatntt tcnnccggaa aatnttgctc ccatccgnaa 240
 attnctcccc ggtagtgcatt nttngggggn cngccangtt tcccaggctg ctanaatcgt 300
 actaaagntt naagtgggan tncaaatgaa aacctnncac agagnatccn taccgactg 360
 tnnnttncct tcgcccctng actctgcnnng agcccaatac ccnngngnat gtnccccngn 420
 nnnccgncnc tgaaannnnc tcgnggctnn gancatcang gggtttcgca tcaaaagcnn 480
 cgttttncat naaggcactt tngcctcatc caaccnctng ccctcnncca tttngccgtc 540
 nggttncct acgctnntng cncctnnntn ganattttnc ccgctnngg naancctcct 600
 gnaatgggta gggnetttnc ttttnaccnn gnggtntact aatcnnctnc acgctnctt 660
 tctcnacccc cccctttttt caatcccanc ggcnaatggg gtctccccnn cgangggggg 720
 nnnccannc c 731

<210> 29
 <211> 822
 <212> DNA
 <213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(822)
 <223> n = A,T,C or G

```

<400> 29
actagtccag tgtggtggaa ttccattgtg ttggggncnc ttctatgant antnttagat      60
cgctcanacc tcacancctc ccnacnangc ctataangaa nannaataga nctgtncnnt      120
atntntacnc tcatanncct cnnnaccacac tccctcttaa ccontactgt gcctatngcn      180
tnnctantct ntgccgectn cnanccaccn gtggggccnac cncnngnatt ctcnatctcc      240
tcnccatntn gcctananta ngtncatacc ctatacctac nccaatgcta nnnctaancn      300
tccatnantt annntaacta ccaactgacnt ngactttcnc atnanctcct aatttgaatc      360
tactctgact cccacngcct annnattagc ancntccccc nacnatntct caaccaaadc      420
ntcaacaacc tatctanctg ttcnccaacc nttncctcgg atccccnnac aacccccctc      480
ccaaataccc nccacctgac ncctaaccn caccatcccg gcaagccnan ggncatttan      540
ccactggaat cacnatngga naaaaaaac ccnaactctc tancncnnat ctccctaana      600
aatnctcctn naatttactn ncantnccat caancccaac tgaaacnnaa cccctgtttt      660
tanatccctt ctttcgaaaa ccnacccttt annncccaac ctttngggcc cccccnctnc      720
ccnaatgaag gncncccaat cnangaaacg nccntgaaaa ancnaaggcna anannntccg      780
canatcctat cccttanttn ggggnccctt nccnngggcc cc                        822
  
```

<210> 30
 <211> 787
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(787)
 <223> n = A,T,C or G

```

<400> 30
cggccgcctg ctctggcaca tgcctcctga atggcatcaa aagtgatgga ctgcccattg      60
ctagagaaga ccttctctcc tactgtcatt atggagccct gcagactgag ggctcccctt      120
gtctgcagga tttgatgtct gaagtcgtgg agtgtggctt ggagctcctc atctacatna      180
gctggaagcc ctggaggggc tctctcgcca gcctccccct tctctccacg ctctccangg      240
acaccagggg ctccaggcag cccattattc ccagnangac atgggtgtttc tccacgcgga      300
cccatggggc ctgnaaggcc agggctctcct ttgacaccat ctctcccgtc ctgcctggca      360
ggccgtggga tccactantt ctanaacggg cgccaccncg gtgggagctc cagcttttgt      420
tcccnttaat gaaggttaat tgencgcttg gcgtaatcat nggtcanaac tntttcctgt      480
gtgaaattgt ttntccccct ncnattccnc ncnacatacn aaccgggaan cataaagtgt      540
taaagccttg ggtngcctn nngaataaac tnaactcaat taattgcgtt ggctcatggc      600
ccgctttccn ttcnngaaaa ctgtctntcc ctgcnttntt gaatcgggca cccccnnggg      660
aaaagcgggt tgcnttttng ggggntcctt ccncttcccc cctcnctaan ccctnccgct      720
cggtcgttnc nggtngcggg gaanggggat nnnctccnc naagggggng agnnngntat      780
ccccaaa
  
```

<210> 31
 <211> 799
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(799)
 <223> n = A,T,C or G

```

<400> 31
tttttttttt tttttttggc gatgctactg ttttaattgca ggaggtgggg gtgtgtgtac      60
catgtaccag ggctattaga agcaagaagg aaggaggagg ggcagagcgc cctgctgagc      120
aacaaaggac tcctgcagcc ttctctgtct gtctcttggc gcaggcacat ggggaggcct      180
cccgagggtt gggggccacc agtccagggg tgggagcact acanggggtg ggagtgggtg      240
gtggctggtn cnaatggcct gncacanatc cctacgattc ttgacacctg gatttcacca      300
  
```

ggggaccttc	tgttctccca	nggnaacttc	ntnnatctcn	aaagaacaca	actgtttctt	360
cngcanttct	ggctgttcat	ggaaagcaca	ggtgtccnat	ttnggetggg	acttgggtaca	420
tatggttccg	gcccacctct	cccntcnaa	aagtaattca	ccccccccc	ccntctnttg	480
cctgggccct	taantaccca	caccggaaact	canttantta	ttcatcttng	gntgggcttg	540
ntnatcnccn	cctgaangcg	ccaagttgaa	aggccacgcc	gtncnccnctc	cccatagnan	600
nttttnnct	canctaagc	ccccccnggc	aacnatccaa	tccccccccc	tgggggcccc	660
agcccanggc	ccccgnetcg	ggnnnccngn	cncgnantcc	ccaggntctc	ccantcngnc	720
ccnnngcncc	cccgcacgca	gaacanaagg	ntngagccnc	cgcannnnnn	nggtnnncac	780
ctcgcccccc	ccnncgngg					799

<210> 32

<211> 789

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(789)

<223> n = A,T,C or G

<400> 32

tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	60
ttttncnag	ggcagggtta	tgacaacct	cncgggacac	aancaggctg	gggacaggac	120
ggcaacaggc	tccggcgggc	gcggcgggcg	ccctacctgc	ggtaccaa	ntgcagcctc	180
cgctcccgt	tgatnttcct	ctgcagctgc	aggatgccnt	aaaacagggc	ctcggccntn	240
ggtgggcacc	ctgggatttn	aatttccacg	ggcacaatgc	ggtcgcancc	cctcaccacc	300
nattagggaat	agtgtnttta	ccnccnccg	ttggcncact	ccccntggaa	accacttntc	360
gcggctccgg	catctggtct	taaaccttgc	aaacnctggg	gccctctttt	tggttantnt	420
nccngccaca	atcatnactc	agactggcnc	gggctggccc	caaaaaan	ccccaaaacc	480
ggncatgtc	ttnncgggg	tgctgcnatn	tncatcacct	cccgggcnca	ncaggncaac	540
ccaaaagtgc	ttgngggccn	caaaaaanct	ccggggggnc	ccagtttcaa	caaagtcac	600
ccccttggcc	cccaaactct	ccccccgntt	ncgtgggttg	ggaacccacg	cctctnnctt	660
tggnnggcaa	gntggntccc	ccttcggggc	cccgtggggc	ccnctctaa	ngaaaacncc	720
ntcctnnnca	ccatcccccc	nngnnacgnc	tancaangna	tccctttttt	tanaaacggg	780
ccccccnccg						799

<210> 33

<211> 793

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(793)

<223> n = A,T,C or G

<400> 33

gacagaacat	ggtggatggt	ggagcacctt	tctatacgac	ttacaggaca	gcagatgggg	60
aattcatggc	tggtggagca	atanaacccc	agttctacga	gctgctgac	aaaggacttg	120
gactaaagtc	tgatgaactt	cccaatcaga	tgagcatgga	tgattggcca	gaaatgaana	180
agaagtttgc	agatgtattt	gcaaagaaga	cgaaggcaga	gtggtgtcaa	atctttgacg	240
gcacagatgc	ctgtgtgact	ccggttctga	cttttgagga	ggttggtcat	catgatcaca	300
acaangaacg	gggctcggtt	atcaccantg	aggagcagga	cgtgagcccc	cgccctgcac	360
ctctgctggt	aaacacccca	gccatccctt	ctttcaaaag	ggatccacta	cttctagagc	420
ggncgccacc	gcggtggagc	tccagctttt	gttcccttta	gtgagggtta	attgcgcgct	480
tggcgtaatc	atggtcatan	ctgtttcctg	tgtgaaattg	ttatccgctc	acaattccac	540
acaacatacg	anccggaagc	atnaaatttt	aaagcctggg	ggtngcctaa	tgantgaact	600
nactcacatt	aattggcttt	gcgctcactg	cccgttttcc	agtccggaaa	acctgtcctt	660
gccagctgcc	nttaataaat	cnggccaccc	cccggggaaa	aggcngtttg	cttnttgggg	720
cgcncctccc	gctttctcgc	ttcctgaant	ccttcccccc	ggtctttcgg	cttgcggcna	780
acgggtatcna	cct					793

<210> 34
 <211> 756
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(756)
 <223> n = A,T,C or G

<400> 34
 gccgcgaccg gcatgtacga gcaactcaag ggcgagtggga accgtaaaaag ccccaatctt 60
 ancaagtgcg gggaanagct gggtcgactc aagctagttc ttctggagct caacttcttg 120
 ccaaccacag ggaccaagct gaccaaacag cagctaattc tggcccgtga catactggag 180
 atcggggccc aatggagcat cctacgcaan gacatcccct ccttcgagcg ctacatggcc 240
 cagctcaaat gctactactt tgattacaan gagcagctcc ccgagtcagc ctatatgcac 300
 cagctcttgg gcctcaacct cctcttcctg ctgtcccaga accgggtggc tgantnccac 360
 acgganttgg ancggctgcc tgcccanga catacanacc aatgtctaca tcnaccacca 420
 gtgtcctgga gcaatactga tgganggcag ctaccncaa gtnttcctgg ccnagggtaa 480
 catccccgcg cgagagctac accttcttca ttgacatcct gctcgacact atcagggatg 540
 aaaatcggng ggttgctcca gaaaggctnc aanaanatcc ttttcnctga agggccccgg 600
 atncnctagt nctagaatcg gcccggccatc gcggtgganc ctccaacctt tcgttnccct 660
 ttactgaggg ttnattgccg cccttggcgt tatcatggtc acncngttn cctgtgttga 720
 aattnttaac cccccacaat tccacgccna cattnng 756

<210> 35
 <211> 834
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(834)
 <223> n = A,T,C or G

<400> 35
 ggggatctct anatcnacct gnatgcatgg ttgtcggtgt ggtcgctgtc gatgaanatg 60
 aacaggatct tgcccttgaa gctctcggtc gctgtnttta agttgctcag tctgccgtca 120
 tagtcagaca cnetcttggg caaaaaacan caggatntga gtcttgattt cacctccaat 180
 aatcttcngg gctgtctgct cggatgaactc gatgacnang ggcagctggt tgtgtntgat 240
 aaantccanc angttctcct tggtagcttc cccttcaaag ttgttcggc cttcatcaaa 300
 cttctnnaan angannancc canctttgtc gagctggnat ttgganaaca cgtcactgtt 360
 ggaaactgat cccaaatggt atgtcatcca tcgcctctgc tgccctgcaa aaacttgctt 420
 ggcncaaatc cgactccccn tccttgaaag aagccnatca cccccctc cctggactcc 480
 nncaangact ctncgcgtnc ccntccnng cagggttggg ggcannccgg gccntgcgc 540
 ttcttcagcc agttcacnat nttcatcagc ccctctgcca gctgtntat tccttggggg 600
 ggaanccgtc tctcccttc tgaannaact ttgaccgtng gaatagccgc gcntcnccnt 660
 acntnctggg ccgggttcaa antccctcnc ttgncnntcn cctcgggcca ttctggattt 720
 nccnaacttt ttccttcccc cncnccnng ngtttggntt tttcatnggg ccccaactct 780
 gctnttggcc antccctggt gggcntntan cncnccctnt ggtcccntng ggcc 834

<210> 36
 <211> 814
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(814)
 <223> n = A,T,C or G

<400> 36

16

cggnccgcttt	ccngccgcgc	cccgtttcca	tgacnaagge	teccttcang	ttaaatacnn	60
cctagnaacc	attaatgggt	tgctctacta	atacatcata	cnaaccagta	agcctgcccc	120
naacgccaac	tcaggccatt	cctaccaaag	gaagaaaggc	tggtctctcc	acccctgtga	180
ggaaaggcct	gccttgtaag	acaccacaat	ncggctgaat	ctnaagtctt	gtgttttact	240
aatggaaaaa	aaaaataaac	aanaggtttt	gttctcatgg	ctgcccaccg	cagcctggca	300
ctaaaacanc	ccagcgctca	cttctgcttg	ganaaatatt	ctttgctctt	ttggacatca	360
ggcttgatgg	tatcactgcc	acntttccac	ccagctgggc	ncccttcccc	catntttgtc	420
antganctgg	aaggcctgaa	ncttagtctc	caaaagtctc	ngcccacaag	accggccacc	480
agggggangtc	ntttncagtg	gatctgccaa	anantaccn	tatcatcnnt	gaataaaaag	540
gcccctgaac	ganatgcttc	cancancctt	taagacccat	aatcctngaa	ccatggtgcc	600
cttccggtct	gatacnaaag	gaatgttctt	gggtcccant	ccctcctttg	ttnccttacgt	660
tgtnttggac	ccntgctngn	atnacccaan	tganatcccc	ngaagcaccc	tnccctggc	720
atttganttt	cntaaattct	ctgccctacn	nctgaaagca	cnattccctn	ggcncnnaan	780
ggngaactca	agaaggtctn	ngaaaaacca	cncn			814

<210> 37
 <211> 760
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(760)
 <223> n = A,T,C or G

<400> 37						
gcagctgct	cttcctcaaa	gttggttcttg	ttgccataac	aaccaccata	ggtaaagcgg	60
gcgcagtgtt	cgctgaagg	gttgtagtac	cagcgcgga	tgctctcctt	gcagagtcct	120
gtgtctggca	ggctccacgca	atgccctttg	tactgggga	aatggatgcg	ctggagctcg	180
tcaanccac	tcgtgtat	ttcacangca	gcctcctccg	aagcntccgg	gcagttgggg	240
gtgtcgtcac	actccactaa	actgtcgatn	cancagccca	ttgctgcagc	ggaactgggt	300
gggctgacag	gtgccagaac	acactggatn	ggcctttcca	tggaaagggc	tgggggaaat	360
cncctnanc	gaactgcct	ctaaaaggcc	accttgca	ccccgacag	ctagaaatgc	420
actcttcttc	ccaaaggtag	ttgttctt	tgcccaagca	ncctccanca	aaccaaanc	480
ttgcaaaatc	tgctccgtgg	gggtcatnnn	taccanggtt	ggggaaanaa	acccggcngn	540
ganccncctt	gtttgaatgc	naaggnaata	atcctcctgt	cttgcttggg	tggaaanagca	600
caattgaact	gttaacnttg	ggccnggttc	cncnnggtg	gtctgaaact	aatcacctgc	660
actggaaaaa	ggtagtgcc	ttccttgaat	tcccaaant	ccctngntt	tgggtntttt	720
ctcctctncc	ctaaaaatcg	tnttcccccc	ccntanggcg			760

<210> 38
 <211> 724
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(724)
 <223> n = A,T,C or G

<400> 38						
tttttttttt	tttttttttt	tttttttttt	tttttaaaaa	ccccctccat	tgaatgaaaa	60
cttcnnaaat	tgccaaccc	cctcnnccaa	atnnccattt	ccgggggggg	gttccaaacc	120
caaatttaatt	ttgganttta	aattaaatnt	tnattngggg	aanaanccaa	atgtnaagaa	180
aatttaaccc	attatnaact	taaatncctn	gaaacccttg	gnttccaaaa	atttttaacc	240
cttaaattccc	tccgaaattg	ntaanggaaa	accaaattcn	cctaaggctn	tttgaagggt	300
ngattttaaac	ccccttnant	tnttttnacc	cnnngnctnaa	ntatttngnt	tccggtgttt	360
tcctnttaan	cntnggtaac	tcccgnataa	gaannncctt	aanccaatta	aaccgaattt	420
tttttgaatt	ggaaattccn	ngggaattna	ccggggtttt	tccnttttgg	gggccatncc	480
cccnctttcg	gggtttgggn	ntaggttgaa	tttttnnang	ncccaaaaaa	nccccaana	540
aaaaaactcc	caagnnttaa	ttngaantnc	ccccctccca	ggccttttgg	gaaagngggg	600
ttnttggggg	ccngggantt	cnttcccccn	ttncncccc	ccccccnggt	aaanggttat	660

ngnntttggt ttttgggcc cttnanggac cttccggatn gaaattaaat ccccggnncg 720
gccg 724

<210> 39
<211> 751
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(751)
<223> n = A,T,C or G

<400> 39
tttttttttt tttttctttg ctcacattta atttttatnt tgattttttt taatgctgca 60
caacacaata tttatttcat ttgtttcttt tatttcatnt tatttggttg ctgctgctgt 120
tttattttatt tttactgaaa gtgagaggga acttttgttg ccttttttcc tttttctgta 180
ggccgcctta agctttctaa atttggaaca tctaagcaag ctgaanggaa aaggggggtt 240
cgcaaaatca ctcgggggaa nggaaagggt gctttgttaa tcatgcccta tgggtgggtga 300
ttaactgctt gtacaattac ntttcacttt taattaattg tgctnaangc tttaattana 360
cttggggggt ccttccccc accaaccnccn ctgacaaaaa gtgccngccc tcaaatnatg 420
tcccgccnnt cnttgaaaca cacngcngaa ngttctcatt ntcccccnc caggtnaaaa 480
tgaagggtta ccatntttta cncacactcc acntggcnnn gcctgaatcc tcnaaaancn 540
ccctcaancn aatttctnng ccccggtcnc gcntnngtcc cncgggggt cccgggaantn 600
cacccccnga annnntnnc naacnaaatt ccgaaaatat tcccnntcnc tcaattcccc 660
cnnagactnt cctcnnncn cncaattttc ttttntcac gaacncgnnc cnaaaatgn 720
nnnnncctc cncnngtcn naatnccan c 751

<210> 40
<211> 753
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(753)
<223> n = A,T,C or G

<400> 40
gtggtatttt ctgtaagatc aggtgttctt cctcgttagg ttttagaggaa acaccctcat 60
agatgaaaac ccccccgaga cagcagcact gcaactgcca agcagccggg gtaggagggg 120
cgccctatgc acagctgggc ctttgagaca gcagggttc gatgtcaggc tcgatgtcaa 180
tgggtctggaa gcggcggttg tacctgcgta ggggcacacc gtcaggggcc accaggaact 240
tctcaaagtt ccaggcaacn tcgttgcgac acaccggaga ccagggtgatn agcttgggggt 300
cggtcataa cgcgggtggc tcgtcgctgg gagctggcag ggcttcccgc aggaaggcna 360
ataaaagggt cgcccccgca ccgttcanct cgcacttctc naanaccatg angttgggct 420
cnaaccacc accannccgg acttccttga nggaattccc aaatctcttc gntcttgggc 480
ttctnctgat gccctanctg gttgccnngn atgccaanca nccccancc ccgggggtcct 540
aaanaccncc cctcctentt tcatctgggt tnttntcccc ggacctgggt tctctcaag 600
ggancccata tctcnaccan tactcacnnt nccccccnt gnnaccanc cttctanngn 660
ttccnccccg nctctgggc cntcaaanan gcttnacna cctgggtctg ctttcccccc 720
tnccctatct gnaccnccn tttgtctcan tnt 753

<210> 41
<211> 341
<212> DNA
<213> Homo sapien

<400> 41
actatatcca tcacaacaga catgttcat cccatagact tcttgacata gcttcaaagt 60
agtgaacca tccttgattt atatacatat atgttctcag tattttggga gcctttccac 120
ttctttaaac cttgttcatt atgaacactg aaaataggaa tttgtgaaga gttaaaaagt 180

tatagcttgt	ttacgtagta	agtttttgaa	gtctacattc	aatccagaca	cttagttgag	240
tgtaaactg	tgatttttaa	aaaatatcat	ttgagaatat	tctttcagag	gtattttcat	300
ttttactttt	tgattaattg	tgttttatat	attagggtag	t		341

<210> 42
 <211> 101
 <212> DNA
 <213> Homo sapien

<400> 42						
acttactgaa	tttagttctg	tgctcttctt	tatttagtgt	tgtatcataa	atactttgat	60
gtttcaaaca	ttctaaataa	ataattttca	gtggcttcac	a		101

<210> 43
 <211> 305
 <212> DNA
 <213> Homo sapien

<400> 43						
acatctttgt	tacagtctaa	gatgtgttct	taaatacaca	ttccttcctg	gtcctcaccc	60
tccagggtgg	tctcacactg	taattagagc	tattgaggag	tctttacagc	aaattaagat	120
tcagatgcct	tgctaagtct	agagttctag	agttatgttt	cagaaagtct	aagaaaccca	180
cctcttgaga	ggtcagtaaa	gaggacttaa	tatttcatat	ctacaaaatg	accacaggat	240
tggtatcaga	acgagagtta	tcctggataa	ctcagagctg	agtacctgcc	cggggggccg	300
tcgaa						305

<210> 44
 <211> 852
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(852)
 <223> n = A,T,C or G

<400> 44						
acataaatat	cagagaaaag	tagtctttga	aatattttacg	tccaggagtt	ctttgtttct	60
gattatttgg	tgtgtgtttt	ggtttgtgtc	caaagtattg	gcagcttcag	ttttcatttt	120
ctctccatcc	tcgggcattc	ttcccaaatt	tatataccag	tcttcgtcca	tccacacgct	180
ccagaatttc	tctttttag	taatatctca	tagctcggct	gagcttttca	taggtcatgc	240
tgctgttgtt	cttcttttta	ccccatagct	gagccactgc	ctctgatttc	aagaacctga	300
agacgccctc	agatcggtct	tcccatttta	ttaatcctgg	gttcttgtct	gggttcaaga	360
ggatgtcgcg	gatgaattcc	cataagttag	tccctctcgg	gttgtgcttt	ttgggtgtggc	420
acttggcagg	ggggctctgc	tcctttttca	tatcagggtga	ctctgcaaca	ggaaggtgac	480
tggtgggtgt	catggagatc	tgagcccggc	agaaagtgtt	gctgtccaac	aaatctactg	540
tgctaccata	gttgggtgtca	tataaatagt	tctngtcttt	ccagggtgttc	atgatggaag	600
gctcagtttg	ttcagttctg	acaatgacat	tgtgtgtgga	ctggaacagg	tactacttgc	660
actggccgtt	ccacttcaga	tgctgcaagt	tgctgtagag	gagntgccc	gccgtccctg	720
ccgcccgggt	gaactcctgc	aaactcatgc	tgcaaagggtg	ctcgccgttg	atgtcgaaact	780
cntggaaagg	gatacaattg	gcatccagct	ggttgggtgc	caggaggtga	tgagagccact	840
cccacacctg	gt					852

<210> 45
 <211> 234
 <212> DNA
 <213> Homo sapien

<400> 45						
acaacagacc	cttgctcgct	aacgacctca	tgctcatcaa	gttgagacgaa	tccgtgtccg	60
agtctgacac	catccggagc	atcagcattg	cttcgcagtg	ccctaccgcg	gggaactctt	120
gcctcgtttc	tggctggggg	ctgctggcga	acggcagaat	gcctaccgtg	ctgcagtgcg	180

tgaacgtgtc ggtggtgtct gaggaggtct gcagtaagct ctatgaccgc ctgt 234

<210> 46
 <211> 590
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(590)
 <223> n = A,T,C or G

<400> 46
 acttttttatt taaatgttta taaggcagat ctatgagaat gatagaaaac atggtgtgta 60
 atttgatagc aatatttttg agattacaga gtttttagtaa ttaccaatta cacagttaaa 120
 aagaagataa tatattccaa gcanatacaa aatatctaata gaaagatcaa ggcaggaaaa 180
 tgantataac taattgacaa tggaaaaatca attttaatgt gaattgcaca ttatccttta 240
 aaagctttca aaanaanaaa ttattgcagt ctanttaatt caaacagtgt taaatgggtat 300
 caggataaan aactgaaggc canaaagaat taattttcac ttcattgtaac nccccanat 360
 ttacaatggc ttaaattgcan ggaaaaagca gtggaagtag ggaagtantc aaggtctttc 420
 tggctctctaa tctgccttac tctttgggtg tggctttgat cctctggaga cagctgccag 480
 ggctcctgtt atatccacaa tcccagcagc aagatgaagg gatgaaaaag gacacatgct 540
 gccttccttt gaggagactt catctcactg gccaacactc agtcacatgt 590

<210> 47
 <211> 774
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(774)
 <223> n = A,T,C or G

<400> 47
 acaagggggc ataataagg agtggggana gatttttaaag aaggaaaaaa aacgaggccc 60
 tgaacagaat tttcctgnac aacggggcctt caaaataatt ttcttgggga ggttcaagac 120
 gcttactgctc ttgaaactta aatggatgtg ggacanaatt ttctgtaatg accctgaggg 180
 cattacagac gggactcttg gaggaaggat aaacagaaaag gggacaaaag ctaatcccaa 240
 aacatcaaag aaaggaagggt ggcgtcctac ctcccagcct acacagttct ccagggtctc 300
 cctcatcctc ggaggacgac agtggaggaa caactgacca tgtccccagg ctctgtgtg 360
 ctggctcctg gtcttcagcc cccagctctg gaagcccacc ctctgctgat cctgcgtggc 420
 ccacactcct tgaacacaca tcccaggtt atattccttg acatggctga acctcctatt 480
 cctacttccg agatgccttg ctccctgcag cctgtcaaaa tcccactcac cctccaaacc 540
 acggcatggg aagcctttct gacttgcttg attactccag catcttgga caatccctga 600
 ttccccactc cttagaggca agatagggtg gttaagagta gggctggacc acttgagacc 660
 aggctgctgg cttcaaattt tggctcattt acgagctatg ggaccttggg caagtnatct 720
 tcacttctat gggcntcatt ttgttctacc tgcaaaatgg gggataataa tagt 774

<210> 48
 <211> 124
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(124)
 <223> n = A,T,C or G

<400> 48
 canaaattga aattttataa aaaggcattt ttctcttata tccataaaat gatataattt 60
 ttgcaantat anaaatgtgt cataaattat aatgttcctt aattacagct caacgcaact 120

tggt

124

<210> 49

<211> 147

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(147)

<223> n = A,T,C or G

<400> 49

```

gccgatgcta ctattttatt gcaggaggtg ggggtgtttt tattattctc tcaacagctt      60
tgtggctaca ggtggtgtct gactgcatna aaaanttttt tacgggtgat tgcaaaaatt      120
ttagggcacc catatcccaa gcantgt                                          147

```

<210> 50

<211> 107

<212> DNA

<213> Homo sapien

<400> 50

```

acattaaatt aataaaagga ctgttgggggt tctgctaaaa cacatggctt gatataattgc      60
atggtttgag gttaggagga gttaggcata tgttttggga gaggggt                      107

```

<210> 51

<211> 204

<212> DNA

<213> Homo sapien

<400> 51

```

gtcctaggaa gtctaggga cacacgactc tggggtcacg gggccgacac acttgcacgg      60
cggaaggaa aggcagagaa gtgacaccgt cagggggaaa tgacagaaag gaaaatcaag      120
gccttgcaag gtcagaaagg ggactcaggg cttccaccac agccctgcc cacttgcca      180
cctccctttt gggaccagca atgt                                           204

```

<210> 52

<211> 491

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(491)

<223> n = A,T,C or G

<400> 52

```

acaaagataa catttatctt ataacaaaaa tttgatagtt ttaaaggtta gtattgtgta      60
gggtattttt caaaagacta aagagataac tcaggtaaaa agttagaaat gtataaaaaca      120
ccatcagaca gggtttttaa aaacaacata ttacaaaatt agacaatcat ccttaaaaaa      180
aaaacttctt gtatcaattt cttttgttca aaatgactga cttaantatt tttaaattatt      240
tcanaaacac ttctcaaaa attttcaana tggtagcttt canatgtnc ctcagtccca      300
atgttgctca gataaataaa tctcgtgaga acttaccacc caccacaagc tttctggggc      360
atgcaacagt gtcttttctt tnccttttct tttttttttt ttacaggcac agaaactcat      420
caattttatt tggataacaa aggggtctcca aattatattg aaaaataaat ccaagttaat      480
atcactcttg t                                                    491

```

<210> 53

<211> 484

<212> DNA

<213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(484)
 <223> n = A,T,C or G

<400> 53
 acataattta gcagggctaa ttaccataag atgctattta ttaanaggtn tatgatctga 60
 gtattaacag ttgctgaagt ttgggtatttt tatgcagcat tttctttttg ctttgataac 120
 actacagaac ccttaaggac actgaaaatt agtaagtaaa gttcagaaac attagctgct 180
 caatcaaatt tctacataac actatagtaa ttaaaacggt aaaaaaaagt gttgaaatct 240
 gcactagtat anaccgctcc tgtcaggata anactgcttt ggaacagaaa gggaaaaanc 300
 agctttgant ttctttgtgc tgatangagg aaaggctgaa ttaccttgtt gcctctccct 360
 aatgattggc aggtcnggta aatnccaaaa catattccaa ctcaacactt cttttccncg 420
 tancttgant ctgtgtattc caggancagg cggatggaat gggccagccc ncggatgttc 480
 cant 484

<210> 54
 <211> 151
 <212> DNA
 <213> Homo sapien

<400> 54
 actaaacctc gtgcttgtga actccataca gaaaacgggtg ccatccctga acacggctgg 60
 ccactgggta tactgtctgac aaccgcaaca acaaaaacac aaatccttgg cactggctag 120
 tctatgtcct ctcaagtgcc tttttgtttg t 151

<210> 55
 <211> 91
 <212> DNA
 <213> Homo sapien

<400> 55
 acctggcttg tctccgggtg gttcccggcg cccccacgg tccccagaac ggacactttc 60
 gccctccagt ggatactcga gccaaagtgg t 91

<210> 56
 <211> 133
 <212> DNA
 <213> Homo sapien

<400> 56
 ggcggatgtg cgttggttat atacaaatat gtcattttat gtaagggact tgagtatact 60
 tggatttttg gtatctgtgg gttgggggga cgggccagga accaataccc catggatacc 120
 aagggacaac tgt 133

<210> 57
 <211> 147
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(147)
 <223> n = A,T,C or G

<400> 57
 actctggaga acctgagccg ctgctccgcc tctgggatga ggtgatgcan gcngtggcgc 60
 gactggggagc tgagcccttc cctttgcgcc tgcctcagag gattgttgcc gacntgcana 120
 tctcantggg ctggatncat gcagggt 147

<210> 58

<211> 198
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(198)
 <223> n = A,T,C or G

<400> 58
 acagggatat aggtttnaag ttattgtnat tgtaaaatac attgaatttt ctgtatactc 60
 tgattacata catttatcct ttaaaaaaga tgtaaatcctt aatttttatg ccatctatta 120
 atttaccat gagttacctt gtaaatgaga agtcatgata gcactgaatt ttaactagtt 180
 ttgacttcta agtttggt 198

<210> 59
 <211> 330
 <212> DNA
 <213> Homo sapien

<400> 59
 acaacaaatg ggttgtagg aagtcttatac agcaaaactg gtgatggcta ctgaaaagat 60
 ccattgaaaa ttatcattaa tgattttaaa tgacaagtta tcaaaaactc actcaatttt 120
 cacctgtgct agcttgctaa aatgggagtt aactctagag caaatatagt atcttctgaa 180
 tacagtcaat aaatgacaaa gccagggcct acaggtgggt tccagacttt ccagaccag 240
 cagaaggaat ctattttatc acatggatct ccgtctgtgc tcaaaatacc taatgatatt 300
 tttcgtcttt attggacttc tttgaagagt 330

<210> 60
 <211> 175
 <212> DNA
 <213> Homo sapien

<400> 60
 accgtgggtg ccttctacat tcctgacggc tccttcacca acatctgggt ctacttcggc 60
 gtcgtgggt ccttctctt catcctcatc cagctgggtg tgctcatcga ctttgcgac 120
 tcctggaacc agcgggtggc gggcaaggcc gaggagtgcg attcccgtgc ctggt 175

<210> 61
 <211> 154
 <212> DNA
 <213> Homo sapien

<400> 61
 accccacttt tcctcctgtg agcagtctgg acttctcact gctacatgat gagggtgagt 60
 ggttggtgct cttcaacagt atcctcccct ttccggatct gctgagccgg acagcagtgc 120
 tgactgcac agccccgggg ctccacattg ctgt 154

<210> 62
 <211> 30
 <212> DNA
 <213> Homo sapien

<400> 62
 cgctcgagcc ctatagttag tcgtattaga 30

<210> 63
 <211> 89
 <212> DNA
 <213> Homo sapien

<400> 63

acaagtcatt tcagcaccct ttgctcttca aaactgacca tcttttatat ttaatgcttc 60
ctgtatgaat aaaaatggtt atgtcaagt 89

<210> 64
<211> 97
<212> DNA
<213> Homo sapien

<400> 64
accggagtaa ctgagtcggg acgctgaatc tgaatccacc aataaataaa ggttctgcag 60
aatcagtga tccaggattg gtccttggtat ctgggggt 97

<210> 65
<211> 377
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1) ... (377)
<223> n = A,T,C or G

<400> 65
acaacaanaa ntcccttctt taggccactg atggaaacct ggaacccctt tttgatggca 60
gcatggcgctc ctaggccttg acacagcggc tggggtttgg gctntcccaa accgcacacc 120
ccaaccctgg tctaccaca nttctggcta tgggctgtct ctgccactga acatcaggggt 180
tcggtcataa natgaaatcc caanggggac agagggtcagt agagggaagct caatgagaaa 240
ggtgctgttt gtcagccag aaaacagctg cctggcattc gccgctgaac tatgaaccgc 300
tgggggtgaa ctaccccccag gaggaatcat gcctgggcga tgcaanggtg ccaacaggag 360
ggcgggagg agcatgt 377

<210> 66
<211> 305
<212> DNA
<213> Homo sapien

<400> 66
acgcctttcc ctcagaattc agggaagaga ctgtcgctg ccttcctccg ttgttgctg 60
agaacccgtg tgccccttcc caccatatcc accctcgctc catctttgaa ctcaaacacg 120
aggaactaac tgcaccctgg tcctctcccc agtccccagt tcaccctcca tccctcacct 180
tcctccactc taaggatat caacactgcc cagcacaggg gccctgaatt tatgtggttt 240
ttatatattt ttttaataaga tgcactttat gtcatttttt aataaagtct gaagaattac 300
tgttt 305

<210> 67
<211> 385
<212> DNA
<213> Homo sapien

<400> 67
actacacaca ctccacttgc ctttgtgaga cactttgtcc cagcacttta ggaatgctga 60
ggtcggacca gccacatctc atgtgcaaga ttgccagca gacatcaggt ctgagagttc 120
cccttttaaa aaaggggact tgcttaaaaa agaagtctag ccacgattgt gtagagcagc 180
tgtgtgtgctc tggagattca cttttgagag agttctcctc tgagacctga tctttagagg 240
ctgggcagtc ttgcacatga gatggggctg gtctgatctc agcactcctt agtctgcttg 300
cctctcccag ggccccagcc tggccacacc tgcttacagg gcactctcag atgccatac 360
catagtttct gtgctagtgg accgt 385

<210> 68
<211> 73
<212> DNA
<213> Homo sapien

<400> 68
 acttaaccag atatattttt accccagatg gggatattct ttgtaaaaaa tgaaaataaa 60
 gtttttttaa tgg 73

<210> 69
 <211> 536
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(536)
 <223> n = A,T,C or G

<400> 69
 actagtccag tgtggtggaa ttccattgtg ttgggggctc tcaccctcct ctctgcagc 60
 tccagctttg tgctctgcct ctgaggagac catggcccag catctgagta ccctgctgct 120
 cctgctggcc accctagctg tggccctggc ctggagcccc aaggaggagg ataggataat 180
 cccgggtggc atctataacg cagacctcaa tgatgagtgg gtacagcgtg cccttcactt 240
 cgccatcagc gagtataaca aggccaccaa agatgactac tacagacgtc cgctgcgggt 300
 actaagagcc aggcaacaga ccgttggggg ggtgaattac ttcttcgacg tagaggtggg 360
 ccgaaccata tgtaccaagt cccagcccaa cttggacacc tgtgccttcc atgaacagcc 420
 agaactgcag aagaaacagt tgtgctcttt cgagatctac gaagttccct ggggagaaca 480
 gaangtccct ggttgaaatc caggtgtcaa gaaatcctan ggatctgttg ccaggc 536

<210> 70
 <211> 477
 <212> DNA
 <213> Homo sapien

<400> 70
 atgaccccta acaggggcc tctcagccct cctaattgacc tccggcctag ccatgtgatt 60
 tcaacttcac tccataacgc tctcactact aggcctact accaacacac taaccatata 120
 ccaatgatgg cgcgatgtaa cagagaaaag cacataccaa ggccaccaca caccacctgt 180
 ccaaaaaggc cttcgatacg ggataatcct atttattacc tcagaagttt ttttcttcgc 240
 agggattttt ctgagccttt taccactcca gcctagcccc taccctccaa ctaggagggc 300
 actggccccc aacaggcatc accccgctaa atcccctaga agtcccactc ctaaacacat 360
 ccgtattact cgcatacaga gtatcaatca cctgagctca ccatagtcta atagaaaaca 420
 accgaaacca aattattcaa agcactgctt attacaattt tactgggtct ctatttt 477

<210> 71
 <211> 533
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(533)
 <223> n = A,T,C or G

<400> 71
 agagctatag gtacagtgtg atctcagctt tgcaaacaca ttttctacat agatagtact 60
 aggtattaat agatatgtaa agaaagaaat cacaccatta ataatggtaa gattggttta 120
 tgtgatttta ttgggtatttt tggcaccctt atatagtgtt tccaaacttt cagcagtgat 180
 attatttcca taacttaaaa agtgagtttg aaaaagaaaa tctccagcaa gcatctcatt 240
 taaataaagg tttgtcatct ttaaaaatac agcaatatgt gactttttta aaaagctgtc 300
 aaatagggtg gaccctacta ataattatta gaaatacatt taaaaacatc gagtacctca 360
 agtcagtttg ccttgaaaaa tatcaaatat aactcttaga gaaatgtaca taaaagaatg 420
 cttcgtaatt ttggagtang aggttccctc ctcaattttg tattttttaa aagtacatgg 480
 taaaaaaaaa aattcacaa acgtatataag gctgtaaaaat gaagaattct gcc 533

<210> 72

<211> 511
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(511)
 <223> n = A,T,C or G

<400> 72
 tattacggaa aaacacacca cataattcaa ctancaaaga anactgcttc agggcgtgta 60
 aaatgaaagg cttccaggca gttatctgat taaagaacac taaaagaggg acaaggctaa 120
 aagccgcagg atgtctacac tatancaggc gctatttggg ttggctggag gagctgtgga 180
 aaacatggan agattgggtc tgganacgc cgtggctatt cctcattgtt attacanagt 240
 gaggttctct gtgtgcccac tggtttgaaa accgttctnc aataatgata gaatagtaca 300
 cacatgagaa ctgaaatggc ccaaaccag aaagaaagcc caactagatc ctcagaanac 360
 gcttctaggg acaataaccg atgaagaaaa gatggcctcc ttgtgcccc gtctgttatg 420
 atttctctcc attgcagcna naaaccggtt cttctaagca aacncagggtg atgatggcna 480
 aaatacaccc cctcttgaag naccnggagg a 511

<210> 73
 <211> 499
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(499)
 <223> n = A,T,C or G

<400> 73
 cagtgccagc actggtgccca gtaccagtag caataacagt gccagtgccca gtgccagcac 60
 cagtggtagc ttcagtgtctg gtgccagcct gaccgccact ctcacatttg ggctcttcgc 120
 tggccttggg ggagctgggt ccagcaccag tggcagctct ggtgcctgtg gtttctccta 180
 caagtgagat tttagatatt gttaatcctg ccagtctttc tcttcaagcc aggggtgcatc 240
 ctcagaaacc tactcaacac agcactctag gcagccacta tcaatcaatt gaagttgaca 300
 ctctgcatta aatctatttg ccatttctga aaaaaaaaaa aaaaaaaggc cggccgctcg 360
 antctagagg gcccgtttaa acccgctgat cagcctcgac tgtgccttct anttgccagc 420
 catctgttgt ttgcccctcc cccgntgcct tccttgaccc tggaaagtgc cactcccact 480
 gtcccttcct aantaaaat 499

<210> 74
 <211> 537
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(537)
 <223> n = A,T,C or G

<400> 74
 tttcatagga gaacacactg aggagatact tgaagaattt ggattcagcc gcgaagagat 60
 ttatcagctt aactcagata aaatcattga aagtaataag gtaaaagcta gtctctaaact 120
 tccaggccca cggctcaagt gaatttgaat actgcattta cagtgtagag taacacataa 180
 cattgtatgc atggaaacat ggaggaacag tattacagtg tcctaccact ctaatcaaga 240
 aaagaattac agactctgat tctacagtga tgattgaatt ctaaaaatgg taatcattag 300
 ggcttttgat ttataanact ttgggtactt atactaaatt atggtagtta tactgccttc 360
 cagtttgctt gatataattg ttgatattaa gattcttgac ttatatattg aatgggttct 420
 actgaaaaan gaatgatata ttcttgaaga catcgatata catttattta cactcttgat 480
 tctacaatgt agaaaatgaa ggaaatgccc caaattgtat ggtgataaaa gtcccgt 537

<210> 75
 <211> 467
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(467)
 <223> n = A,T,C or G

<400> 75
 caaanacaat tgttcaaaag atgcaaatga tacactactg ctgcagctca caaacacctc 60
 tgcataattac acgtacctcc tcctgctcct caagtagtgt ggtctatattt gccatcatca 120
 cctgctgtct gcttagaaga acggctttct gctgcaangg agagaaatca taacagacgg 180
 tggcacaagg aggccatctt ttccctcatcg gttattgtcc ctagaagcgt cttctgagga 240
 tctagtggg ctttctttct gggtttgggc catttcantt ctcagtgtgt tactattcta 300
 tcattattgt ataacgggtt tcaaaccngt gggcacncag agaacctcac tctgtaataa 360
 caatgaggaa tagccacggg gatctccagc accaaatctc tccatgttnt tccagagctc 420
 ctccagccaa cccaaatagc cgctgctatn gtgtagaaca tccctgn 467

<210> 76
 <211> 400
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(400)
 <223> n = A,T,C or G

<400> 76
 aagctgacag cattcgggcc gagatgtctc gctccgtggc cttagctgtg ctgcgctac 60
 tctctctttc tggcctggag gctatccagc gtactccaaa gattcagggt tactcacgtc 120
 atccagcaga gaatggaaag tcaaatttcc tgaattgcta tgtgtctggg tttcatccat 180
 ccgacattga agttgactta ctgaagaatg gagagagaat tgaaaaagtg gagcattcag 240
 acttgtcttt cagcaaggac tggctctttct atctcttgta ctacactgaa ttcaccccca 300
 ctgaaaaaga tgagtatgcc tgccgtgtga accatgtgac tttgtcacag cccaagatng 360
 ttnagtggga tcganacatg taagcagcan catggggaggt 400

<210> 77
 <211> 248
 <212> DNA
 <213> Homo sapien

<400> 77
 ctggagtgcc ttggtgtttc aagcccctgc aggaagcaga atgcaccttc tgaggcacct 60
 ccagctgccc cggcggggga tgcgaggctc ggagcaccct tgcccggctg tgattgctgc 120
 caggcactgt tcatctcagc tttctgtgcc cttgtctccc ggcaagcgt tctgctgaaa 180
 gtcatatct ggagcctgat gtcttaacga ataaaggctc catgctccac ccgaaaaaaa 240
 aaaaaaaaa 248

<210> 78
 <211> 201
 <212> DNA
 <213> Homo sapien

<400> 78
 actagtccag tgtgggtggaa ttccattgtg ttgggcccac cacaatggct acctttaaca 60
 tccccagac ccgcccctgc ccgtgcccac cgctgctgct aacgacagta tgatgcttac 120
 tctgtactc ggaaactatt tttatgtaat taatgtatgc tttcttggtt ataaatgcct 180
 gatttaaaaa aaaaaaaaaa a 201

<210> 79
 <211> 552
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(552)
 <223> n = A,T,C or G

<400> 79
 tccttttgtt aggtttttga gacaacccta gacctaaact gtgtcacaga cttctgaatg 60
 ttttaggcagt gctagtaatt tcctcgtaat gattctgtta ttactttcct attctttatt 120
 cctctttcct ctgaagatta atgaagttga aaattgaggt ggataaatac aaaaaggtag 180
 tgtgatagta taagtatcta agtgcagatg aaagtgtgtt atatatatcc attcaaaatt 240
 atgcaagtta gtaattactc agggttaact aaattacttt aatatgctgt tgaacctact 300
 ctgttccttg gctagaaaaa attataaaca ggactttgtt agtttgggaa gccaaattga 360
 taatattcta tgttctaaaa gttgggctat acataaanta tnaagaaata tggaatttta 420
 ttcccaggaa tatgggggtc atttatgaat antacccggg anagaagtgt tganntnaaac 480
 cngttttggg taatacggtta atatgtccn aatnaacaag gcntgactta tttccaaaaa 540
 aaaaaaaaaa aa 552

<210> 80
 <211> 476
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(476)
 <223> n = A,T,C or G

<400> 80
 acagggattt gagatgctaa ggccccagag atcgtttgat ccaaccctct tattttcaga 60
 ggggaaaatg gggcctagaa gttacagagc atctagctgg tgcgctggca cccctggcct 120
 cacacagact cccgagtagc tgggactaca ggcacacagt cactgaagca ggcctgttt 180
 gcaattcacg ttgccacctc caacttaaac attcttcata tgtgatgtcc ttagtcacta 240
 aggttaaact ttcccaccca gaaaaggcaa cttagataaa atcttagagt actttcatac 300
 tcttctaagt cctcttccag cctcactttg agtcctcctt gggggttgat aggaantntc 360
 tcttggtttt ctcaataaaa tctctatcca tctcatgttt aatttggtac gcntaaaaat 420
 gctgaaaaaa ttaaaatgtt ctggtttcnc tttaaaaaaa aaaaaaaaaa aaaaaa 476

<210> 81
 <211> 232
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(232)
 <223> n = A,T,C or G

<400> 81
 tttttttttg tatgcctnctn ctgtgnggtt attgttgctg ccaccctgga ggagcccagt 60
 ttctttctgta tctttctttt ctggggggtc ttcctggctc tgcccctcca ttcccagcct 120
 ctcatcccca tcttgcaatt ttgctagggt tggaggcgtt ttcctggtag cccctcagag 180
 actcagtcag cgggaataag tcctaggggt ggggggtgtg gcaagccggc ct 232

<210> 82
 <211> 383
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(383)
 <223> n = A,T,C or G

<400> 82
 aggcgggagc agaagctaaa gccaaagccc aagaagagtg gcagtgccag cactggtgcc 60
 agtaccagta ccaataacat gccagtgccg gtgccagcac cagtgggtggc ttcagtgtctg 120
 gtgccagcct gaccgccact ctacacatttg ggctcttcgc tggccttggt ggagctgggt 180
 ccagcaccag tggcagctct ggtgcctgtg gtttctccta caagtgagat tttagatatt 240
 gttaatcctg ccagtctttc tcttcaagcc aggggtgcatc ctcaaaaacc tactcaacac 300
 agcactctng gcagccacta tcaatcaatt gaagttgaca ctctgcatta aatctatttg 360
 ccattttcaaa aaaaaaaaaa aaa 383

<210> 83
 <211> 494
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(494)
 <223> n = A,T,C or G

<400> 83
 accgaattgg gaccgctggc ttataagcga tcatgtcctc cagtattacc tcaacgagca 60
 gggagatcga gtctatacgc tgaagaaatt tgaccgatg ggacaacaga cctgctcagc 120
 ccatcctgct cggttctccc cagatgacaa atactctcga caccgaatca ccatcaagaa 180
 acgcttcaag gtgctcatga cccagcaacc gcgccctgtc ctctgagggg ccttaaactg 240
 atgtcttttc tgccacctgt tacccctcgg agactccgta accaaactct tcggactgtg 300
 agccctgatg cctttttgcc agccatactc tttggcntcc agtctctcgt ggcgattgat 360
 tatgcttgtg tgaggcaatc atggtggcat caccatnaa ggggaacacat ttganttttt 420
 tttcncatat tttaaattac naccagaata nttcagaata aatgaattga aaaactctta 480
 aaaaaaaaaa aaaa 494

<210> 84
 <211> 380
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(380)
 <223> n = A,T,C or G

<400> 84
 gctggtagcc tatggcgtgg ccacgggangg gctcctgagg cacgggacag tgacttccca 60
 agtatcctgc gccgcgtctt ctaccgtccc tacctgcaga tcttcgggca gattccccag 120
 gaggacatgg acgtggccct catggagcac agcaactgct cgtcggagcc cggcttctgg 180
 gcacaccctc ctggggccca ggcgggcacc tgcgtctccc agtatgccaa ctggctgggtg 240
 gtgctgctcc tcgtcatott cctgctcgtg gccaacatcc tgctgggtcac ttgctcattg 300
 ccatgttcag ttacacattc ggcaaagtac agggcaacag cnatctctac tgggaaggcc 360
 agcgttnccg cctcatccgg 380

<210> 85
 <211> 481
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature

<222> (1)...(481)

<223> n = A,T,C or G

<400> 85

gagtttagctc	ctccacaacc	ttgatgaggt	cgtctgcagt	ggcctctcgc	ttcataccgc	60
tnccatcgtc	atactgtagg	tttgccacca	cctcctgcat	cttggggcgg	ctaatatcca	120
ggaaactctc	aatcaagtca	ccgtcnatna	aaacctgtggc	tggttctgtc	ttccgctcgg	180
tgtgaaagga	tctccagaag	gagtgtctga	tcttccccac	acttttgatg	actttattga	240
gtcgattctg	catgtccagc	aggaggttgt	accagctctc	tgacagttag	gtcaccagcc	300
ctatcatgcc	nttgaacgtg	ccgaagaaca	ccgagccttg	tgtggggggg	gnagtctcac	360
ccagattctg	cattaccaga	nagccgtggc	aaaaganatt	gacaactcgc	ccaggngaa	420
aaagaacacc	tcctggaagt	gctngccgct	cctcgtccnt	tggtggnggc	gcntnccttt	480
t						481

<210> 86

<211> 472

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(472)

<223> n = A,T,C or G

<400> 86

aacatcttcc	tgtataatgc	tgtgtaatat	cgatccgatn	ttgtctgctg	agaattcatt	60
acttggaana	gcaacttnaa	gcctggacac	tggtattaaa	attcacaata	tgcaacactt	120
taaacagtgt	gtcaatctgc	tcccttactt	tgatcatcacc	agtctgggaa	taagggtatg	180
ccctattcac	acctgttaaa	agggcgctaa	gcatttttga	ttcaacatct	ttttttttga	240
cacaagtccg	aaaaaagcaa	aagtaaacag	ttnttaattt	gttagccaat	tcactttctt	300
catgggacag	agccatttga	tttaaaaagc	aaattgcata	atattgagct	ttgggagctg	360
atatntgagc	ggaagantag	cctttctact	tcaccagaca	caactccttt	catattggga	420
tgtnnacnaa	agttatgtct	cttacagatg	ggatgctttt	gtggcaattc	tg	472

<210> 87

<211> 413

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(413)

<223> n = A,T,C or G

<400> 87

agaaaccagt	atctctnaaa	acaacctctc	ataccttggtg	gacctaatth	tgtgtgcgtg	60
tgtgtgtgcg	cgcataattat	atagacaggc	acatcttttt	tacttttgta	aaagcttatg	120
cctctttggg	atctatatct	gtgaaagttt	taatgatctg	ccataatgct	ttggggacct	180
ttgtcttctg	tgtaaatggg	actagagaaa	acacctatnt	tatgagtcaa	tctagttngt	240
tttattcgac	atgaaggaaa	tttccagatn	acaacactna	caaactctcc	cttgactagg	300
ggggacaaa	aaaagcanaa	ctgaacatna	gaaacaattn	cctgggtgaga	aattncataa	360
acagaaattg	ggtngtatat	tgaaananng	catcattnaa	acgttttttt	ttt	413

<210> 88

<211> 448

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(448)

<223> n = A,T,C or G

<400> 88

cgcagcgggt	cctctctatc	tagctccage	ctctcgccctg	ccccactccc	cgcgtcccgc	60
gtcctagccn	accatggccg	ggccccctgcg	cgccccgcctg	ctcctgctgg	ccatcctggc	120
cgtggccctg	gccgtgagcc	ccgcggccgg	ctccagtccc	ggcaagccgc	cgcgcctggg	180
gggaggccca	tggaccccg	gtggaagaag	aagggtgtgcg	gcgtgcactg	gactttgccc	240
tgggcnanta	caacaaacc	gcaacnactt	ttaccnagcn	cgcgtgcag	gttgtgcgc	300
cccaancaaa	ttgttactng	gggtaantaa	ttcttggaag	ttgaacctgg	gccaaacnng	360
tttaccagaa	ccnagccaat	tngaacaatt	nccccctccat	aacagcccct	tttaaaaagg	420
gaancantcc	tgntcttttc	caaattttt				448

<210> 89

<211> 463

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(463)

<223> n = A,T,C or G

<400> 89

gaattttgtg	cactggccac	tgtgatggaa	ccattgggcc	aggatgcttt	gagtttatca	60
gtagtgattc	tgccaaagtt	ggtgttgtaa	catgagtatg	taaaatgtca	aaaaattagc	120
agaggctctag	gtctgcatat	cagcagacag	tttgtccgtg	tattttgtag	ccttgaagtt	180
ctcagtgaca	agttntttct	gatgcgaagt	tctnattcca	gtgttttagt	cctttgcatc	240
tttnatgttn	agacttgccct	ctntnaaatt	gcttttgtnt	tctgcaggta	ctatctgtgg	300
tttaacaaaa	tagaannact	tctctgcttn	gaanatttga	atatcttaca	tctnaaaatn	360
aattctctcc	ccatannaaa	acccangccc	ttggganaat	ttgaaaaang	gntccttcnn	420
aattcnnana	anttcagntn	tcatacaaca	naacngganc	ccc		463

<210> 90

<211> 400

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(400)

<223> n = A,T,C or G

<400> 90

agggattgaa	ggtctnttnt	actgtcggac	tgttcancca	ccaactctac	aagttgctgt	60
cttccactca	ctgtctgtaa	gcntnttaac	ccagactgta	tcttcataaa	tagaaciaaat	120
tcttcaccag	tcacatcttc	taggaccttt	ttggattcag	ttagtataag	ctcttccact	180
tcctttgtta	agacttcctc	tggtaaagtc	ttaagttttg	tagaaaggaa	tttaattgct	240
cgttctctaa	caatgtcctc	tccttgaagt	atttggctga	acaacccacc	tnaagtcctt	300
ttgtgcatcc	attttaaata	tacttaatat	ggcattggtn	cactagggtta	aattctgcaa	360
gagtcactctg	tctgcaaaaag	ttgcgttagt	atatctgcca			400

<210> 91

<211> 480

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(480)

<223> n = A,T,C or G

<400> 91

gagctcggat	ccaataatct	ttgtctgagg	gcagcacaca	tatncagtgc	catggnaact	60
------------	------------	------------	------------	------------	------------	----

ggtctacccc	acatggggagc	agcatgccgt	agntatataa	ggtcattccc	tgagtcagac	120
atgcctcttt	gactaccgtg	tgccagtgt	ggtgattctc	acacacctcc	nnccgctctt	180
tgtggaaaaa	ctggcacttg	nctggaacta	gcaagacatc	acttacaaat	tcacccacga	240
gacacttgaa	aggtgtaaca	aagcgactct	tgcattgctt	tttgtccctc	cggcaccagt	300
tgtcaatact	aaccgcgtgg	tttgccctcca	tcacatttgt	gatctgtagc	tctggatata	360
tctcctgaca	gtactgaaga	actttctctt	ttgtttcaaa	agcaactctt	ggtgcctgtt	420
ngatcaggtt	cccatattccc	agtcggaatg	ttcacatggc	atatnttact	tcccacaaaa	480

<210> 92
 <211> 477
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(477)
 <223> n = A,T,C or G

<400> 92						
atacagccca	natcccacca	cgaagatgcg	cttgttgact	gagaacctga	tgcggtcact	60
gggtcccgctg	tagccccagc	gactctccac	ctgctggaag	cggttgatgc	tgcaactcctt	120
cccacgcagg	cagcagcggg	gccgggtcaat	gaactccact	cgtggcttgg	ggttgacggt	180
taantgcagg	aagaggctga	ccacctcgcg	gtccaccagg	atgcccgact	gtgcgggacc	240
tgacagcгаа	ctcctcgatg	gtcatgagcg	ggaagcgaat	gangcccagg	gccttgccca	300
gaaccttccg	cctgttctct	ggcgtcacct	gcagctgctg	ccgctnacac	tcggcctcgg	360
accagcggag	aaacggcggt	gaacagccgc	acctcacgga	tgcccantgt	gtcgcgtcc	420
aggaacggcn	ccagcgtgtc	caggtcaatg	tcggtgaanc	ctccgcgggt	aatggcg	477

<210> 93
 <211> 377
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(377)
 <223> n = A,T,C or G

<400> 93						
gaacggctgg	accttgccctc	gcattgtgct	gctggcagga	ataccttggc	aagcagctcc	60
agtcggagca	gccccagacc	gctgccgccc	gaagctaagc	ctgcctctgg	ccttcccctc	120
gcctcaatg	cagaaccant	agtgggagca	ctgtgttttag	agttaagagt	gaacactgtn	180
tgattttact	tgggaatttc	ctctgtttata	tagcttttcc	caatgctaata	ttccaaacaa	240
caacaacaaa	ataacatgtt	tgccgtgttna	gttgatataaa	agtangtgat	tctgtatnta	300
aagaaaatat	tactgtttaca	tatactgctt	gcaanttctg	tattttattgg	tnctctggaa	360
ataaatatat	tattaaa					377

<210> 94
 <211> 495
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(495)
 <223> n = A,T,C or G

<400> 94						
cccttttgagg	ggtttagggc	cagttcccag	tggaagaaac	aggccaggag	aantgcgtgc	60
cgagctgang	cagatttccc	acagtgaccc	cagagccctg	ggctatagtc	tctgaccctt	120
ccaaggaaaag	accaccttct	ggggacatgg	gctggagggc	aggacctaga	ggcaccaagg	180
gaaggcccca	ttccggggct	gttccccgag	gaggaaggga	aggggctctg	tgtgcccccc	240

```

acgaggaana ggccttgant cctgggatca nacacccctt cacgtgtatc cccacacaaa      300
tgcaagctca ccaaggtccc ctctcagtc cttccctaca ccctgaacgg nccactggccc      360
acacccaccc agancancca cccgccatgg ggaatgtnt caaggaatcg cngggcaacg      420
tggactctng tcccnnaagg gggcagaatc tccaatagan ggangaacc cttgctnana      480
aaaaaaaaana aaaaaa

```

<210> 95

<211> 472

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(472)

<223> n = A,T,C or G

<400> 95

```

ggttacttgg ttctattgcc accacttagt ggatgtcatt tagaaccatt ttgtctgctc      60
cctctggaag ccttgccgag agcggacttt gtaattgttg gagaataact gctgaatttt      120
tagctgtttt gagttgattc gcaccactgc accacaactc aatatgaaaa ctatttnact      180
tatttattat cttgtgaaaa gtatacaatg aaaattttgt tcatactgta tttatcaagt      240
atgatgaaaa gcaatagata tatattcttt tattatgttn aattatgatt gccattatta      300
atcggcaaaa tgtggagtgt atgttctttt cacagtaata tatgcctttt gtaacttcac      360
ttggttattt tattgtaaat gaattacaaa attcttaatt taagaaaatg gtangttata      420
tttanttcan taatttcttt ccttgtttac gtttaattttg aaaagaatgc at              472

```

<210> 96

<211> 476

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(476)

<223> n = A,T,C or G

<400> 96

```

ctgaagcatt tcttcaaact tntctacttt tgtcattgat acctgtagta agttgacaat      60
gtgggtgaaat ttcaaaatta tatgtaaact ctactagtgt tactttctcc cccaagtctt      120
ttttaactca tgatttttac acacacaatc cagaacttat tatatagcct ctaagtcttt      180
attcttcaca gtagatgatg aaagagtcct ccagtgtctt gngcanaatg ttctagntat      240
agctggatac atacngtggg agttctataa actcatacct cagtgggact naaccaaatt      300
tgtgttagtc tcaattccta ccacactgag ggagcctccc aaatcactat attcttatct      360
gcagggtact ctccagaaaa acngacaggg caggcttgca tgaaaaagtn acatctgcgt      420
tacaaagtct atcttcctca nangtctgtn aaggaacaat ttaatcttct agcttt      476

```

<210> 97

<211> 479

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(479)

<223> n = A,T,C or G

<400> 97

```

actctttcta atgctgatat gatcttgagt ataagaatgc atatgtcact agaattggata      60
aaataatgct gcaaaacttaa tgttcttatg caaaatggaa cgctaataaa acacagctta      120
caatcgcaaa tcaaaactca caagtgtcga tctgttgtag atttagtgta ataagactta      180
gattgtgctc ctccggatat gattgtttct canatcttgg gcaatnttcc ttagtcaaat      240
caggctacta gaattctggt attggatatn tgagagcatg aaatttttaa naatacactt      300

```

gtgattatna	aattaatcac	aaattttcact	tatacctgct	atcagcagct	agaaaaacat	360
ntnnnttttta	natcaaagta	ttttgtgttt	ggaantgttn	aaatgaaatc	tgaatgtggg	420
ttcnatctta	ttttttcccn	gacnactant	tnctttttta	gggnctattc	tganccatc	479

<210> 98
 <211> 461
 <212> DNA
 <213> Homo sapien

<400> 98						
agtgacttgt	cctccaacaa	aacccttga	tcaagtttgt	ggcactgaca	atcagaccta	60
tgctagtcc	tgtcatctat	tcgtactaa	atgcagactg	gaggggacca	aaaaggggca	120
tcaactccag	ctggattatt	ttggagcctg	caaatctatt	cctacttgta	cggactttga	180
agtgattcag	tttcctctac	ggatgagaga	ctggctcaag	aatatcctca	tgcagcttta	240
tgaagccact	ctgaacacgc	tggttatcta	gatgagaaca	gagaaataaa	gtcagaaaat	300
ttacctggag	aaaagaggct	ttggctgggg	accatcccat	tgaaccttct	cttaaggact	360
ttaagaaaaa	ctaccacatg	ttgtgtatcc	tggtgccggc	cgtttatgaa	ctgaccaccc	420
tttggaataa	tcttgacgct	cctgaacttg	ctcctctgcy	a		461

<210> 99
 <211> 171
 <212> DNA
 <213> Homo sapien

<400> 99						
gtggcgcgc	gcaggtgttt	cctcgtagcg	cagggccccc	tcccttcccc	aggcgctccct	60
cgggcgctct	gcgggcccg	ggaggagcgg	ctggcggtg	gggggagtgt	gacccaccct	120
cggtgagaaa	agccttctct	agcgatctga	gaggcgtgcc	ttgggggtac	c	171

<210> 100
 <211> 269
 <212> DNA
 <213> Homo sapien

<400> 100						
cgggcgcaag	tgcaactcca	gctggggccg	tgcggaacga	gattctgcca	gcagttggtc	60
cgactgcgac	gacggcgggc	gcgacagtcg	caggtgcagc	gcggggcgct	gggggtcttg	120
aaggctgagc	tgacgccgca	gaggtcgtgt	cacgtcccac	gaccttgacg	ccgtcgggga	180
cagccggaac	agagcccggg	gaagcgggag	gcctcgggga	gcccctcggg	aagggcggcc	240
cgagagatac	gcaggtgcag	gtggccgcc				269

<210> 101
 <211> 405
 <212> DNA
 <213> Homo sapien

<400> 101						
tttttttttt	ttttggaatc	tactgcgagc	acagcaggtc	agcaacaagt	ttattttgca	60
gctagcaagg	taacagggtg	gggcatggtt	acatgttcag	gtcaacttcc	tttgtcgtgg	120
ttgattggtt	tgtctttatg	ggggcggggt	gggtagggg	aaacgaagca	aataacatgg	180
agtgggtgca	ccctccctgt	agaacctggg	tacaaagctt	ggggcagttc	acctggtctg	240
tgaccgtcat	tttcttgaca	tcaatgttat	tagaagtcag	gatattcttt	agagagtcca	300
ctgttctgga	gggagattag	ggtttcttgc	caaatccaac	aaaatccact	gaaaaagtgt	360
gatgatcagt	acgaataccg	aggcatattc	tcatatcggt	ggcca		405

<210> 102
 <211> 470
 <212> DNA
 <213> Homo sapien

<400> 102						
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	60

ggcacttaat	ccatTTTTat	ttcaaaatgt	ctacaaatTT	aatcccatTA	tacggTattt	120
tcaaaatcta	aattattcaa	attagccaaa	tccttaccaa	ataataccca	aaaatcaaaa	180
atatacttct	ttcagcaaac	ttgttacata	aattaaaaaa	atatatacgg	ctggTgtttt	240
caaagtacaa	ttatcttaac	actgcaaaac	ttttaaggaa	ctaaaataaa	aaaaaacact	300
ccgcaaaggt	taaagggaac	aacaaattct	tttacaacac	cattataaaa	atcatacttc	360
aaatcttagg	ggaatatata	cttcacacgg	gatcttaact	tttactcact	ttgtttattt	420
ttttaaacca	ttgtttgggc	ccaacacaat	ggaatcccc	ctggactagt		470

<210> 103
 <211> 581
 <212> DNA
 <213> Homo sapien

<400> 103						
tttttttttt	ttttttttga	ccccctctt	ataaaaaaca	agttaccatt	ttattttact	60
tacacatatt	tattttataa	ttggtattag	atattcaaaa	ggcagctttt	aaaatcaaac	120
taaatggaaa	ctgccttaga	tacataattc	ttaggaatta	gcttaaaatc	tgcctaaagt	180
gaaaatcttc	tctagctctt	ttgactgtaa	atttttgact	cttgtaaaac	atccaaattc	240
atttttcttg	tctttaaaaat	tatctaattc	ttccattttt	tccctattcc	aagtcaattt	300
gcttctctag	cctcatttcc	tagctcttat	ctactattag	taagtggctt	ttttcctaaa	360
agggaaaaaca	ggaagagaaa	tggcacacaa	aacaaacatt	ttatattcat	atttctacct	420
acgttaataa	aatagcattt	tgtgaagcca	gctcaaaaga	aggcttagat	ccttttatgt	480
ccattttagt	cactaaacga	tatcaaagtg	ccagaatgca	aaagggttgt	gaacatttat	540
tcaaaagcta	atataagata	tttcacatac	tcattctttct	g		581

<210> 104
 <211> 578
 <212> DNA
 <213> Homo sapien

<400> 104						
tttttttttt	tttttttttt	tttttctctt	cttttttttt	gaaatgagga	tcgagttttt	60
cactctctag	atagggcatg	aagaaaactc	atctttccag	ctttaaaata	acaatcaaat	120
ctcttatgct	atatcatatt	ttaagttaaa	ctaagtatgc	actggcttat	cttctcctga	180
aggaaatctg	ttcattcttc	tcattcatat	agttatatca	agtactacct	tgcataattga	240
gaggTttttc	ttctctattt	acacatatat	ttccatgtga	atttgatatca	aacctttatt	300
ttcatgcaaa	ctagaaaata	atgtttcttt	tgcataagag	aagagaacaa	tatagcatta	360
caaaactgct	caaattgttt	gttaagttat	ccattataat	tagttggcag	gagctaatac	420
aaatcacatt	tacgacagca	ataataaaac	tgaagtacca	gttaaatatc	caaaataatt	480
aaaggaacat	ttttagcctg	ggtataatta	gctaattcac	tttacaagca	tttattagaa	540
tgaattcaca	tgattattatt	cctagcccaa	cacaatgg			578

<210> 105
 <211> 538
 <212> DNA
 <213> Homo sapien

<400> 105						
tttttttttt	tttttcagta	ataatcagaa	caatatttat	ttttatattt	aaaattcata	60
gaaaagtgcc	ttacatttaa	taaaagtttg	tttctcaaag	tgatcagagg	aattagatat	120
gtcttgaaca	ccaatattaa	tttgaggaaa	atacaccaaa	atacatTAag	taaattattt	180
aagatcatag	agcttgtaag	tgaaaagata	aaatttgacc	tcagaaactc	tgagcattaa	240
aaatccacta	ttagcaata	aattactatg	gacttcttgc	tttaattttg	tgatgaatat	300
ggggtgtcac	tggtaaacca	acacattctg	aaggatacat	tacttagtga	tagattctta	360
tgtactttgc	taatacgtgg	atatgagttg	acaagtttct	ctttcttcaa	tcttttaagg	420
ggcgagaaat	gaggaagaaa	agaaaaggat	tacgcatact	gttctttcta	tggaaggatt	480
agatatgttt	cctttgccaa	tattaaaaaa	ataataatgt	ttactactag	tgaaaccc	538

<210> 106
 <211> 473
 <212> DNA
 <213> Homo sapien

<400> 106
 tttttttttt ttttttagtc aagttttctat tttttattata attaaagtct tgggtcatttc 60
 atttatttagc tctgcaactt acatattttaa attaaagaaa cgttttagac aactgtacaa 120
 tttataaatg taaggtgccca ttattgagta atatattcct ccaagagtgg atgtgtccct 180
 tctcccacca actaatgaac agcaacatta gtttaatttt attagtagat atacactgct 240
 gcaaacgcta attctcttct ccatcccat gtgatattgt gtatatgtgt gagttggtag 300
 aatgcatcac aatctacaat caacagcaag atgaagctag gctgggcttt cggtgaaaat 360
 agactgtgtc tgtctgaatc aaatgatctg acctatcctc ggtggcaaga actcttcgaa 420
 ccgcttctc aaaggcgctg ccacatttgt ggctctttgc acttgtttca aaa 473

<210> 107
 <211> 1621
 <212> DNA
 <213> Homo sapien

<400> 107
 cgccatggca ctgcagggca tctcggtcat ggagctgtcc ggcctggccc cggggccggtt 60
 ctgtgctatg gtcctggctg acttcggggc gcgtgtggta cgcgtggacc ggcccggctc 120
 ccgctacgac gtgagccgct tgggcccggg caagcgctcg ctagtgctgg acctgaagca 180
 gccgcgggga gccgccgtgc tgcggcgtct gtgcaagcgg tcggatgtgc tgctggagcc 240
 cttccgccgc ggtgtcatgg agaaactcca gctgggcccga gagattctgc agcgggaaaa 300
 tccaaggctt atttatgccca ggctgagtgg atttggccag tcaggaagct tctgccggtt 360
 agctggccac gatatcaact atttggcttt gtcaggtgtt ctctcaaaaa ttggcagaag 420
 tggtgagaat ccgtatgcc ccgtgaatct cctggctgac tttgctggtg gtggccttat 480
 gtgtgcactg ggcattataa tggctctttt tgaccgcaca cgcactgaca agggtcaggt 540
 cattgatgca aatatggtgg aaggaacagc atatttaagt tcttttctgt ggaaaactca 600
 gaaatcgagt ctgtgggaag cacctcgagg acagaacatg ttggatggtg gagcaccttt 660
 ctatacgact tacaggacag cagatgggga attcatggct gttggagcaa tagaaccaca 720
 gttctacgag ctgctgatca aaggacttgg actaaagtct gatgaacttc ccaatcagat 780
 gagcatggat gattggccag aaatgaagaa gaagtttgca gatgtatttg caaagaagac 840
 gaaggcagag tgggtgcaaa tctttgacgg cacagatgcc tgtgtgactc cggttctgac 900
 ttttgaggag gttgttcac atgatcacia caaggaacgg ggctcgttta tcaccagtga 960
 ggagcaggac gtgagcccc gccctgcacc tctgctgtta aacaccccag ccattccctt 1020
 tttcaaaagg gatcctttca taggagaaca cactgaggag atacttgaag aatttggatt 1080
 cagccgcgaa gagatttacc agcttaactc agataaaatc attgaaagta ataaggtaaa 1140
 agctagtctc taacttccag gccacggct caagtgaatt tgaatactgc atttacagt 1200
 tagagtaaca cataacattg tatgcatgga aacatggagg aacagtatta cagtgtccta 1260
 ccaactcta caagaaaaga attacagact ctgattctac agtgatgatt gaattctaaa 1320
 aatggttatc attagggctt ttgatttata aaactttggg tacttatact aaattatgg 1380
 agttattctg ccttcagtt tgcttgatat atttgttgat attaaagattc ttgacttata 1440
 ttttgaatgg gttctagtga aaaaggaatg atatattctt gaagacatcg atatacattt 1500
 atttacactc ttgattctac aatgtagaaa atgaggaat gccacaaatt gtatggtgat 1560
 aaaagtcacg tgaacaacaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1620
 a 1621

<210> 108
 <211> 382
 <212> PRT
 <213> Homo sapien

<400> 108
 Met Ala Leu Gln Gly Ile Ser Val Met Glu Leu Ser Gly Leu Ala Pro
 1 5 10 15
 Gly Pro Phe Cys Ala Met Val Leu Ala Asp Phe Gly Ala Arg Val Val
 20 25 30
 Arg Val Asp Arg Pro Gly Ser Arg Tyr Asp Val Ser Arg Leu Gly Arg
 35 40 45
 Gly Lys Arg Ser Leu Val Leu Asp Leu Lys Gln Pro Arg Gly Ala Ala
 50 55 60
 Val Leu Arg Arg Leu Cys Lys Arg Ser Asp Val Leu Leu Glu Pro Phe
 65 70 75 80

Arg Arg Gly Val Met Glu Lys Leu Gln Leu Gly Pro Glu Ile Leu Gln
 85 90 95
 Arg Glu Asn Pro Arg Leu Ile Tyr Ala Arg Leu Ser Gly Phe Gly Gln
 100 105 110
 Ser Gly Ser Phe Cys Arg Leu Ala Gly His Asp Ile Asn Tyr Leu Ala
 115 120 125
 Leu Ser Gly Val Leu Ser Lys Ile Gly Arg Ser Gly Glu Asn Pro Tyr
 130 135 140
 Ala Pro Leu Asn Leu Leu Ala Asp Phe Ala Gly Gly Gly Leu Met Cys
 145 150 155 160
 Ala Leu Gly Ile Ile Met Ala Leu Phe Asp Arg Thr Arg Thr Asp Lys
 165 170 175
 Gly Gln Val Ile Asp Ala Asn Met Val Glu Gly Thr Ala Tyr Leu Ser
 180 185 190
 Ser Phe Leu Trp Lys Thr Gln Lys Ser Ser Leu Trp Glu Ala Pro Arg
 195 200 205
 Gly Gln Asn Met Leu Asp Gly Gly Ala Pro Phe Tyr Thr Thr Tyr Arg
 210 215 220
 Thr Ala Asp Gly Glu Phe Met Ala Val Gly Ala Ile Glu Pro Gln Phe
 225 230 235 240
 Tyr Glu Leu Leu Ile Lys Gly Leu Gly Leu Lys Ser Asp Glu Leu Pro
 245 250 255
 Asn Gln Met Ser Met Asp Asp Trp Pro Glu Met Lys Lys Lys Phe Ala
 260 265 270
 Asp Val Phe Ala Lys Lys Thr Lys Ala Glu Trp Cys Gln Ile Phe Asp
 275 280 285
 Gly Thr Asp Ala Cys Val Thr Pro Val Leu Thr Phe Glu Glu Val Val
 290 295 300
 His His Asp His Asn Lys Glu Arg Gly Ser Phe Ile Thr Ser Glu Glu
 305 310 315 320
 Gln Asp Val Ser Pro Arg Pro Ala Pro Leu Leu Leu Asn Thr Pro Ala
 325 330 335
 Ile Pro Ser Phe Lys Arg Asp Pro Phe Ile Gly Glu His Thr Glu Glu
 340 345 350
 Ile Leu Glu Glu Phe Gly Phe Ser Arg Glu Glu Ile Tyr Gln Leu Asn
 355 360 365
 Ser Asp Lys Ile Ile Glu Ser Asn Lys Val Lys Ala Ser Leu
 370 375 380

<210> 109
 <211> 1524
 <212> DNA
 <213> Homo sapien

<400> 109
 ggcacgaggc tgcgccaggc cctgagcggg ggcggggggca gcctcgccag cggggggcccc 60
 gggcctggcc atgcctcaact gagccagcgc ctgcgcctct acctcgccga cagctggaac 120
 cagtgcgacc tagtggtctt cacctgcttc ctccctggcg tgggctgccg gctgaccccg 180
 ggtttgtacc acctgggccc cactgtcctc tgcctcgact tcatggtttt cacgggtgcgg 240
 ctgcttcaca tcttcacggt caacaaacag ctggggccca agatcgatcat cgtgagcaag 300
 atgatgaagg acgtgttctt ctccctcttc ttccctcgcg tgtggctggt agcctatggc 360
 gtggccacgg aggggtcctt gaggccacgg gacagtgact tcccaagtat cctgcgcgcg 420
 gtcttctacc gtccctacct gcagatcttc gggcagattc cccaggagga catggacgtg 480
 gccctcatgg agcacagcaa ctgctcgctg gagcccggct tctgggcaca ccctcctggg 540
 gcccaggcgg gcacctgcgt ctcccagtat gccaaactggc tgggtggtgct gctcctcgtc 600
 atcttctctg tctgtggcaa catcctgctg gtcaacttgc tcattgccat gttcagttac 660
 acattcggca aagtacagg caacagcgat ctctactgga aggcgcagcg ttaccgcctc 720
 atccgggaat tccactctcg gcccgcgctg gccccgcctt ttatcgatcat ctcccacttg 780
 cgctcctctg tcaggcaatt gtgcaggcga ccccgaggcc cccagccgct ctcccggcc 840
 ctcgagcatt tccgggttta ctttctaag gaagccgagc ggaagctgct aacgtgggaa 900
 tcggtgcata aggagaactt tctgctggca cgcgctaggg acaagcggga gagcactcc 960
 gagcgtctga agcgcacgtc ccagaagggt gacttggcac tgaaacagct gggacacatc 1020

cgcgagtacg	aacagcgcct	gaaagtgcgtg	gagcgggaggg	tccagcagtg	tagccgcgtc	1080
ctgggggtggg	tggccgagggc	cctgagccgc	tctgccttgc	tgccccagg	tgggcccga	1140
ccccctgacc	tgcttgggtc	caaagactga	gccctgctgg	cggacttcaa	ggagaagccc	1200
ccacagggga	ttttgtcct	agagtaaggg	tcatctgggc	ctcgccccc	gcacctgggtg	1260
gccttgtcct	tgaggtgagc	cccatgtcca	tctggggccac	tgtcaggacc	acctttggga	1320
gtgtcatcct	tacaaaccac	agcatgcccg	gctcctccca	gaaccagtcc	cagcctggga	1380
ggatcaaggc	ctggatcccc	ggccgttatc	catctggagg	ctgcagggtc	cttggggtaa	1440
cagggaccac	agaccctca	ccactcacag	attcctcaca	ctggggaaat	aaagccattt	1500
cagaggaaaa	aaaaaaaaaa	aaaa				1524

<210> 110
 <211> 3410
 <212> DNA
 <213> Homo sapien

<400> 110						
gggaaccagc	ctgcacgcgc	tggtccggg	tgacagccgc	gcgcctcggc	caggatctga	60
gtgatgagac	gtgtccccac	tgaggtgccc	cacagcagca	ggtgttgagc	atgggctgag	120
aagctggacc	ggcaccaaaag	ggctggcaga	aatgggcgcc	tggtgattc	ctaggcagtt	180
ggcggcagca	aggaggagag	gccgcagctt	ctggagcaga	gccgagacga	agcagttctg	240
gagtgcctga	acggccccct	gagccctacc	cgccctggccc	actatgggtcc	agaggctgtg	300
ggtgagccgc	ctgctgcggc	accggaaaagc	ccagctcttg	ctggtcaacc	tgctaacctt	360
tggcctggag	gtgtgtttgg	ccgcaggcat	cacctatgtg	ccgcctctgc	tgctggaaagt	420
gggggtagag	gagaagttca	tgacctgggt	gctgggcatt	ggtccagtgc	tgggcctggt	480
ctgtgtcccg	ctcctaggct	cagccagtga	ccactggcgt	ggacgctatg	gccgccggccg	540
gcccttcctc	tgggcaactgt	ccttgggcat	cctgctgagc	ctctttctca	tcccaagggc	600
cggctggcta	gcagggtgctg	tgtgcccggg	tcccaggccc	ctggagctgg	cactgctcat	660
cctgggctgtg	gggctgctgg	acttctgtgg	ccaggtgtgc	ttcactccac	tggaggccct	720
gctctctgac	ctcttccggg	acccggacca	ctgtcgccag	gcctactctg	tctatgcctt	780
catgatcagt	cttgggggct	gcctgggcta	cctcctgcct	gccattgact	gggacaccag	840
tgccctggcc	ccctacctgg	gcacccagga	ggagtgcctc	tttggcctgc	tcacctcat	900
cttctcacc	tgcgtagcag	ccacactgct	ggtggctgag	gaggcagcgc	tgggccccac	960
cgagccagca	gaagggtgt	cgccccctc	cttgtcgccc	cactgctgtc	catgccgggc	1020
ccgcttggct	ttccggaacc	tgggcgccct	gcttccccgg	ctgcaccagc	tgtgctgccg	1080
catgccccgc	accctgcgcc	ggctcttcgt	ggctgagctg	tgcagctgga	tggcactcat	1140
gaccttcacg	ctgttttaca	cggatttcgt	gggagagggg	ctgtaccagg	gcgtgccccag	1200
agctgagccg	ggcaccgagg	cccgagagca	ctatgatgaa	ggcgttcgga	tgggcagcct	1260
ggggctgttc	ctgcagtgcg	ccatctccct	ggtcttctct	ctggctatgg	accggctggt	1320
gcagcgattc	ggcactcgag	cagtctatct	ggccagtgtg	gcagctttcc	ctgtggctgc	1380
cgggtgccaca	tgccctgtcc	acagtgtggc	cgtggtgaca	gcttcagccg	ccctcaccgg	1440
gttcaccttc	tcagccctgc	agatcctgcc	ctacacactg	gcctccctct	accaccggga	1500
gaagcaggtg	ttcctgccc	aataccgagg	ggacactgga	ggtgctagca	gtgaggacag	1560
cctgatgacc	agcttcctgc	caggccctaa	gcctggagct	cccttcccta	atggacagct	1620
gggtgctgga	ggcagtggcc	tgctcccacc	tccaccgcgc	ctctgcgggg	cctctgcttg	1680
tgatgtctcc	gtacgtgtgg	tggtgggtga	gcccaccgag	gccagggtgg	ttccgggccc	1740
gggcatctgc	ctggacctcg	ccatcctgga	tagtgccctc	ctgctgtccc	aggtggcccc	1800
atccctgttt	atgggctcca	ttgtccagct	cagccagctc	gtcactgcct	atatggtgtc	1860
tgccgcaggc	ctgggtctgg	tcgccattta	ctttgtctaca	caggtagtat	ttgacaagag	1920
cgaacttggcc	aaataactcag	cgtagaaaaac	ttccagcaca	ttgggggtgga	gggcctgcct	1980
cactgggttc	cagctccccg	ctcctgttag	ccccatgggg	ctgccgggct	ggccgccagt	2040
ttctgttct	gccaagtaaa	tgtggctctc	tgctgccacc	ctgtgctgct	gaggtgcgta	2100
gctgcacagc	tgggggctgg	ggcgtccctc	tcctctctcc	ccagtctcta	gggctgcctg	2160
actggaggcc	ttccaagggg	gtttcagtct	ggacttatac	agggaggcca	gaagggtccc	2220
atgcactgga	atgcggggac	tctgcagggt	gattaccccag	gctcagggtt	aacagtagc	2280
ctcctagtgt	agacacacct	agagaagggt	ttttgggagc	tgaataaact	cagtccactg	2340
gtttcccatc	tctaagcccc	ttaacctgca	gcttcgttta	atgtagctct	tgcatgggag	2400
tttctaggat	gaaacactcc	tccatgggat	ttgaacatat	gacttatattg	taggggaaga	2460
gtcctgaggg	gcaacacaca	agaaccaggt	cccctcagcc	cacagcactg	tctttttgct	2520
gatccacccc	cctcttacct	tttatcagga	tgtggcctgt	tggtccttct	gttgccatca	2580
cagagacaca	ggcattttaa	tatttaactt	atttatttaa	caaagtagaa	gggaatccat	2640
tgctagcttt	tctgtgttgg	tgtctaatat	ttgggtaggg	tgggggatcc	ccaacaatca	2700
ggtcccctga	gatagctggt	cattgggctg	atcattgcca	gaatcttctt	ctcctggggt	2760

ctggccccc	aaaatgccta	acccaggacc	ttggaaattc	tactcatccc	aaatgataat	2820
tccaaatgct	gttaccceaag	gttaggggtgt	tgaagggaagg	tagaggggtgg	ggcttcaggt	2880
ctcaacggct	tccctaacca	cccctcttct	cttggcccag	cctggttccc	cccacttcca	2940
ctcccctcta	ctctctctag	gactgggctg	atgaaggcac	tgcccaaaat	ttcccctacc	3000
cccaactttc	ccctaccccc	aactttcccc	accagctcca	caaccctgtt	tggagctact	3060
gcaggaccag	aagcacaaaag	tgcggtttcc	caagcctttg	tccatctcag	ccccagagt	3120
atatctgtgc	ttggggaatc	tcacacagaa	actcaggagc	accccctgcc	tgagctaagg	3180
gaggtcttat	ctctcagggg	gggtttaagt	gccgtttgca	ataatgtcgt	cttattttatt	3240
tagcgggggtg	aatatTTTTat	actgtaagt	agcaatcaga	gtataatgtt	tatggtgaca	3300
aaattaaagg	ctttcttata	tgtttaaaaa	aaaaaaaaaa	aaaaaaaaaa	aaaaaaaaaa	3360
aaaaaaaaara	aaaaaaaaaa	aaaaaaaaaa	aaaaaaataa	aaaaaaaaaa		3410

<210> 111
 <211> 1289
 <212> DNA
 <213> Homo sapien

<400> 111						
agccaggcgt	ccctctgcct	gcccactcag	tggcaacacc	cgggagctgt	tttgtccttt	60
gtggagcctc	agcagttccc	tctttcagaa	ctcactgcca	agagccctga	acaggagcca	120
ccatgcagtg	cttcagcttc	attaagacca	tgatgatcct	cttcaatttg	ctcatctttc	180
tgtgtgggtgc	agccctgttg	gcagtgggca	tctgggtgtc	aatcgatggg	gcaccccttc	240
tgaagatctt	cgggccactg	tcgtccagtg	ccatgcagtt	tgtcaacgtg	ggctacttcc	300
tcacgcgagc	cggcgtttgtg	gtctttgtct	ttggtttccct	gggctgctat	gggtgctaaga	360
ctgagagcaa	gtgtgccctc	gtgacgttct	tcttcctcct	cctcctcctc	ttcattgctg	420
aggttgagc	tgctgtggtc	gccttggtgt	acaccacaat	ggctgagcac	ttcctgacgt	480
tgctggtagt	gcctgccatc	aagaaagatt	atggttccca	ggaagacttc	actcaagtgt	540
ggaacaccac	catgaaaggg	ctcaagtgtc	gtggcttcac	caactatacg	gattttgagg	600
actcacccta	cttcaaagag	aacagtgcct	ttccccatt	ctgttgcaat	gacaacgtca	660
ccaacacagc	caatgaaacc	tgcaccaagc	aaaaggctca	cgaccaaaaa	gtagagggtt	720
gcttcaatca	gcttttgtat	gacatccgaa	ctaattgcagt	caccgtgggt	gggtgtggcag	780
ctggaattgg	gggcctcgag	ctggctgcc	tgattgtgtc	catgtatctg	tactgcaatc	840
tacaataagt	ccacttctgc	ctctgccact	actgctgcc	catgggaact	gtgaagaggc	900
accctggcaa	gcagcagtg	ttgggggagg	ggacaggatc	taacaatgtc	acttgggcca	960
gaatggacct	gccctttctg	ctccagactt	ggggctagat	agggaccact	ccttttagcg	1020
atgcctgact	ttccttccat	tgggtgggtg	atgggtgggg	ggcattccag	agcctctaag	1080
gtagccagtt	ctgttgccca	ttccccag	ctattaaacc	cttgatatgc	cccctaggcc	1140
tagtgggtgat	cccagtgctc	tactggggga	tgagagaaag	gcattttata	gcctgggcat	1200
aagtgaatc	agcagagcct	ctgggtggat	gtgtagaagg	cacttcaaaa	tgcataaacc	1260
tggtacaatg	ttaaaaaaaa	aaaaaaaaaa				1289

<210> 112
 <211> 315
 <212> PRT
 <213> Homo sapien

<400> 112															
Met	Val	Phe	Thr	Val	Arg	Leu	Leu	His	Ile	Phe	Thr	Val	Asn	Lys	Gln
1				5					10					15	
Leu	Gly	Pro	Lys	Ile	Val	Ile	Val	Ser	Lys	Met	Met	Lys	Asp	Val	Phe
			20					25					30		
Phe	Phe	Leu	Phe	Phe	Leu	Gly	Val	Trp	Leu	Val	Ala	Tyr	Gly	Val	Ala
			35				40					45			
Thr	Glu	Gly	Leu	Leu	Arg	Pro	Arg	Asp	Ser	Asp	Phe	Pro	Ser	Ile	Leu
			50				55				60				
Arg	Arg	Val	Phe	Tyr	Arg	Pro	Tyr	Leu	Gln	Ile	Phe	Gly	Gln	Ile	Pro
65					70				75					80	
Gln	Glu	Asp	Met	Asp	Val	Ala	Leu	Met	Glu	His	Ser	Asn	Cys	Ser	Ser
			85						90					95	
Glu	Pro	Gly	Phe	Trp	Ala	His	Pro	Pro	Gly	Ala	Gln	Ala	Gly	Thr	Cys
			100					105					110		
Val	Ser	Gln	Tyr	Ala	Asn	Trp	Leu	Val	Val	Leu	Leu	Leu	Val	Ile	Phe

115	120	125
Leu Leu Val Ala Asn Ile	Leu Leu Val Asn Leu	Leu Ile Ala Met Phe
130	135	140
Ser Tyr Thr Phe Gly Lys	Val Gln Gly Asn Ser	Asp Leu Tyr Trp Lys
145	150	155
Ala Gln Arg Tyr Arg Leu	Ile Arg Glu Phe His	Ser Arg Pro Ala Leu
165	170	175
Ala Pro Pro Phe Ile Val	Ile Ser His Leu Arg	Leu Leu Arg Gln
180	185	190
Leu Cys Arg Arg Pro Arg	Ser Pro Gln Pro Ser	Ser Pro Ala Leu Glu
195	200	205
His Phe Arg Val Tyr Leu	Ser Lys Glu Ala Glu	Arg Lys Leu Leu Thr
210	215	220
Trp Glu Ser Val His Lys	Glu Asn Phe Leu Leu	Ala Arg Ala Arg Asp
225	230	235
Lys Arg Glu Ser Asp Ser	Glu Arg Leu Lys Arg	Thr Ser Gln Lys Val
245	250	255
Asp Leu Ala Leu Lys Gln	Leu Gly His Ile Arg	Glu Tyr Glu Gln Arg
260	265	270
Leu Lys Val Leu Glu Arg	Glu Val Gln Gln Cys	Ser Arg Val Leu Gly
275	280	285
Trp Val Ala Glu Ala Leu	Ser Arg Ser Ala Leu	Leu Pro Pro Gly Gly
290	295	300
Pro Pro Pro Pro Asp Leu	Pro Gly Ser Lys Asp	315
305	310	

<210> 113
 <211> 553
 <212> PRT
 <213> Homo sapien

<400> 113
Met Val Gln Arg Leu Trp Val Ser Arg Leu Leu Arg His Arg Lys Ala
1 5 10 15
Gln Leu Leu Leu Val Asn Leu Leu Thr Phe Gly Leu Glu Val Cys Leu
20 25 30
Ala Ala Gly Ile Thr Tyr Val Pro Pro Leu Leu Leu Glu Val Gly Val
35 40 45
Glu Glu Lys Phe Met Thr Met Val Leu Gly Ile Gly Pro Val Leu Gly
50 55 60
Leu Val Cys Val Pro Leu Leu Gly Ser Ala Ser Asp His Trp Arg Gly
65 70 75 80
Arg Tyr Gly Arg Arg Arg Pro Phe Ile Trp Ala Leu Ser Leu Gly Ile
85 90 95
Leu Leu Ser Leu Phe Leu Ile Pro Arg Ala Gly Trp Leu Ala Gly Leu
100 105 110
Leu Cys Pro Asp Pro Arg Pro Leu Glu Leu Ala Leu Leu Ile Leu Gly
115 120 125
Val Gly Leu Leu Asp Phe Cys Gly Gln Val Cys Phe Thr Pro Leu Glu
130 135 140
Ala Leu Leu Ser Asp Leu Phe Arg Asp Pro Asp His Cys Arg Gln Ala
145 150 155 160
Tyr Ser Val Tyr Ala Phe Met Ile Ser Leu Gly Gly Cys Leu Gly Tyr
165 170 175
Leu Leu Pro Ala Ile Asp Trp Asp Thr Ser Ala Leu Ala Pro Tyr Leu
180 185 190
Gly Thr Gln Glu Glu Cys Leu Phe Gly Leu Leu Thr Leu Ile Phe Leu
195 200 205
Thr Cys Val Ala Ala Thr Leu Leu Val Ala Glu Glu Ala Ala Leu Gly
210 215 220
Pro Thr Glu Pro Ala Glu Gly Leu Ser Ala Pro Ser Leu Ser Pro His
225 230 235 240

Cys Cys Pro Cys Arg Ala Arg Leu Ala Phe Arg Asn Leu Gly Ala Leu
 245 250 255
 Leu Pro Arg Leu His Gln Leu Cys Cys Arg Met Pro Arg Thr Leu Arg
 260 265 270
 Arg Leu Phe Val Ala Glu Leu Cys Ser Trp Met Ala Leu Met Thr Phe
 275 280 285
 Thr Leu Phe Tyr Thr Asp Phe Val Gly Glu Gly Leu Tyr Gln Gly Val
 290 295 300
 Pro Arg Ala Glu Pro Gly Thr Glu Ala Arg Arg His Tyr Asp Glu Gly
 305 310 315 320
 Val Arg Met Gly Ser Leu Gly Leu Phe Leu Gln Cys Ala Ile Ser Leu
 325 330 335
 Val Phe Ser Leu Val Met Asp Arg Leu Val Gln Arg Phe Gly Thr Arg
 340 345 350
 Ala Val Tyr Leu Ala Ser Val Ala Phe Pro Val Ala Ala Gly Ala
 355 360 365
 Thr Cys Leu Ser His Ser Val Ala Val Val Thr Ala Ser Ala Ala Leu
 370 375 380
 Thr Gly Phe Thr Phe Ser Ala Leu Gln Ile Leu Pro Tyr Thr Leu Ala
 385 390 395 400
 Ser Leu Tyr His Arg Glu Lys Gln Val Phe Leu Pro Lys Tyr Arg Gly
 405 410 415
 Asp Thr Gly Gly Ala Ser Ser Glu Asp Ser Leu Met Thr Ser Phe Leu
 420 425 430
 Pro Gly Pro Lys Pro Gly Ala Pro Phe Pro Asn Gly His Val Gly Ala
 435 440 445
 Gly Gly Ser Gly Leu Leu Pro Pro Pro Ala Leu Cys Gly Ala Ser
 450 455 460
 Ala Cys Asp Val Ser Val Arg Val Val Val Gly Glu Pro Thr Glu Ala
 465 470 475 480
 Arg Val Val Pro Gly Arg Gly Ile Cys Leu Asp Leu Ala Ile Leu Asp
 485 490 495
 Ser Ala Phe Leu Leu Ser Gln Val Ala Pro Ser Leu Phe Met Gly Ser
 500 505 510
 Ile Val Gln Leu Ser Gln Ser Val Thr Ala Tyr Met Val Ser Ala Ala
 515 520 525
 Gly Leu Gly Leu Val Ala Ile Tyr Phe Ala Thr Gln Val Val Phe Asp
 530 535 540
 Lys Ser Asp Leu Ala Lys Tyr Ser Ala
 545 550

<210> 114

<211> 241

<212> PRT

<213> Homo sapien

<400> 114

Met Gln Cys Phe Ser Phe Ile Lys Thr Met Met Ile Leu Phe Asn Leu
 1 5 10 15
 Leu Ile Phe Leu Cys Gly Ala Ala Leu Leu Ala Val Gly Ile Trp Val
 20 25 30
 Ser Ile Asp Gly Ala Ser Phe Leu Lys Ile Phe Gly Pro Leu Ser Ser
 35 40 45
 Ser Ala Met Gln Phe Val Asn Val Gly Tyr Phe Leu Ile Ala Ala Gly
 50 55 60
 Val Val Val Phe Ala Leu Gly Phe Leu Gly Cys Tyr Gly Ala Lys Thr
 65 70 75 80
 Glu Ser Lys Cys Ala Leu Val Thr Phe Phe Ile Leu Leu Leu Ile
 85 90 95
 Phe Ile Ala Glu Val Ala Ala Ala Val Val Ala Leu Val Tyr Thr Thr
 100 105 110
 Met Ala Glu His Phe Leu Thr Leu Leu Val Val Pro Ala Ile Lys Lys

```
<210> 115
<211> 366
<212> DNA
<213> Homo sapien
```

<400>	115						
gctctttctc	tccccctcctc	tgaatttaat	tctttcaact	tgcaatttgc	aaggattaca		60
cattttcactg	tgatgtatat	tgtgttgcaa	aaaaaaaaaa	gtgtctttgt	ttaaattac		120
ttggtttgtg	aatccatctt	gctttttccc	cattggaact	agtcattaac	ccatctctga		180
actggtagaa	aaacatctga	agagctagtc	tatcagcatc	tgacaggtda	attggatggg		240
tctcagaacc	atttcaccca	gacagcctgt	ttctatcctg	tttaataaat	tagtttgggt		300
tctctacatg	cataacaaac	cctgctccaa	tctgtcacat	aaaagtctgt	gacttgaagt		360
ttagtc							366

```
<210> 116
<211> 282
<212> DNA
<213> Homo sapien
```

```
<220>  
<221> misc_feature  
<222> (1)...(282)  
<223> n = A,T,C or G
```

<400>	116					
acaaagatga	accatttcct	atattatagc	aaaattaaaa	tctaccgcta	ttctaataatt	60
gagaaatgag	atnaaacaca	atnttataaa	gtctacttag	agaagatcaa	gtgacctcaa	120
agacttttact	atttttcata	tttaagacac	atgattttatc	ctatttttagt	aacctgggttc	180
atacggttaa	caaaggtata	tgtgaacagc	agagaggatt	tgttggcaga	aaatctatgt	240
tcaatctnqa	actatctana	tcacagacat	ttctatttctt	tt		282

```
<210> 117
<211> 305
<212> DNA
<213> Homo sapien
```

```
<220>
<221> misc_feature
<222> (1)...(305)
<223> n = A,T,C or G
```

<400> 117
acacatgtcg cttcactgcc ttcttagatg cttctgggtca acatanagga acagggacca 60
tattttatcct ccctcctgaa acaattgcaa aataanacaa aatatatgaa acaattgcaa 120

aataaggcaa aatatatgaa acaacaggtc tcgagatatt ggaaatcagt caatgaagga	180
tactgatccc tgatcactgt cctaatagcag gatgtgggaa acagatgagg tcacctctgt	240
gactgccccca gcttactgcc tgtagagagt ttctangctg cagttcagac agggagaaat	300
tggt	305

<210> 118
 <211> 71
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(71)
 <223> n = A,T,C or G

<400> 118	
accaaggtgt ntgaatctct gacgtgggga tctctgattc ccgcacaatc tgagtggaaa	60
aantcctggg t	71

<210> 119
 <211> 212
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(212)
 <223> n = A,T,C or G

<400> 119	
actccggttg gtgtcagcag cacgtggcat tgaacatngc aatgtggagc ccaaaccaca	60
gaaaatgggg tgaaattggc caactttcta tnaacttatg ttggcaantt tgccaccaac	120
agtaagctgg cccttctaataaaaagaaaat tgaaagggtt ctcactaanc ggaattaant	180
aatggantca aganactccc aggcctcagc gt	212

<210> 120
 <211> 90
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(90)
 <223> n = A,T,C or G

<400> 120	
actcgttgca natcaggggc cccccagagt caccgttgca ggagtccttc tggctcttgcc	60
ctccgccggc gcagaacatg ctgggggtgt	90

<210> 121
 <211> 218
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(218)
 <223> n = A,T,C or G

<400> 121	
tgtancgtga anacgacaga naggggtgtc aaaaatggag aanccttgaa gtcattttga	60
gaataagatt tgctaaaaga ttgggggcta aaacatgggt attgggagac atttctgaag	120

atatncangt aaattangga atgaattcat ggttcttttg ggaattcctt tacgatngcc 180
agcatanact tcatgtgggg atancagcta cccttgta 218

<210> 122
<211> 171
<212> DNA
<213> Homo sapien

<400> 122
taggggtgta tgcaactgta aggacaaaaa ttgagactca actggcttaa ccaataaagg 60
catttgtag ctcatggaac aggaagtcgg atgggtggggc atcttcagtg ctgcatgagt 120
caccaccccg gcgggggcat ctgtgccaca ggtccctgtt gacagtgcgg t 171

<210> 123
<211> 76
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(76)
<223> n = A,T,C or G

<400> 123
tgtagcgtga agacnacaga atgggtgtgtg ctgtgctatc caggaacaca tttattatca 60
ttatcaanta ttgtgt 76

<210> 124
<211> 131
<212> DNA
<213> Homo sapien

<400> 124
acctttcccc aaggccaatg tcctgtgtgc taactggccg gctgcaggac agctgcaatt 60
caatgtgctg ggtcatatgg aggggaggag actctaaaat agccaatttt attctcttgg 120
ttaagatttg t 131

<210> 125
<211> 432
<212> DNA
<213> Homo sapien

<400> 125
actttatcta ctggctatga aatagatggt ggaaaattgc gttaccaact ataccactgg 60
cttgaaaaag aggtgatagc tcttcagagg acttgtgact tttgctcaga tgctgaagaa 120
ctacagtctg catttggcag aaatgaagat gaatttggat taaatgagga tgctgaagat 180
ttgcctcacc aaacaaaagt gaaacaactg agagaaaatt ttcaggaaaa aagacagtgg 240
ctcttgaagt atcagtcact ttgagaatg tttcttagtt actgcatact tcatggatcc 300
catgggtggg gtcttgcac tgtaagaatg gaattgattt tgcttttgca agaattctcag 360
caggaaacat cagaaccact attttctagc cctctgtcag agcaaaccctc agtgcctctc 420
ctctttgctt gt 432

<210> 126
<211> 112
<212> DNA
<213> Homo sapien

<400> 126
acacaacttg aatagtaaaa tagaaactga gctgaaattt ctaattcact ttctaaccat 60
agtaagaatg atatttcccc ccagggatca ccaaatttt ataaaaattt gt 112

<210> 127

<211> 54
 <212> DNA
 <213> Homo sapien

<400> 127
 accacgaaac cacaacaag atggaagcat caatccactt gccaaagcaca gcag 54

<210> 128
 <211> 323
 <212> DNA
 <213> Homo sapien

<400> 128
 acctcattag taattgtttt gttgtttcat ttttttctaa tgtctcccct ctaccagctc 60
 acctgagata acagaatgaa aatggaagga cagccagatt tctcctttgc tctctgctca 120
 ttctctctga agtctagggt acccattttg gggaccatt ataggcaata aacacagttc 180
 ccaaagcatt tggacagttt cttgtttgtg tttagaatgg ttttcctttt tcttagcctt 240
 ttcttgcaaa aggctcactc agtcccttgc ttgtcagtg gactgggctc cccagggcct 300
 aggctgcctt cttttccatg tcc 323

<210> 129
 <211> 192
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(192)
 <223> n = A,T,C or G

<400> 129
 acatacatgt gtgtatatatt ttaaatatca cttttgtatc actctgactt tttagcatac 60
 tgaaaacaca ctaacataat ttntgtgaac catgatcaga tacaacccaa atcattcatc 120
 tagcacattc atctgtgata naaagatagg tgagtttcat ttccttcacg ttggccaatg 180
 gataaaca aa gt 192

<210> 130
 <211> 362
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(362)
 <223> n = A,T,C or G

<400> 130
 ccctttttta tggaatgagt agactgtatg tttgaanatt tanccacaac ctctttgaca 60
 tataatgacg caacaaaaag gtgctgttta gtcctatggt tcagtttatg cccctgacaa 120
 gtttccattg tgttttgccg atcttctggc taatcgtggg atcctccatg ttattagtaa 180
 ttctgtattc cattttgtta acgcctgga gatgtaacct gctangaggc taactttata 240
 cttatttaaa agctcttatt ttgtggtcat taaaatggca atttatgtgc agcactttat 300
 tgcagcagga agcacgtgtg ggttggttgt aaagctcttt gctaattcta aaaagtaatg 360
 gg 362

<210> 131
 <211> 332
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature

<222> (1)...(332)

<223> n = A,T,C or G

<400> 131

ctttttgaaa gatcgtgtcc actcctgtgg acatcttggt ttaatggagt ttcccatgca	60
gtangactgg tatggttgca gctgtccaga taaaaacatt tgaagagctc caaaatgaga	120
gttctcccag gttcgccctg ctgctccaag tctcagcagc agcctctttt aggaggcatc	180
ttctgaacta gattaaggca gcttgtaaat ctgatgtgat ttggttttatt atccaactaa	240
cttccatctg ttatcactgg agaaagccca gactcccan gacnggtacg gattgtgggc	300
atanaaggat tgggtgaagc tggcgttgtg gt	332

<210> 132

<211> 322

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(322)

<223> n = A,T,C or G

<400> 132

actttttgcca ttttgtatat ataaacaatc ttgggacatt ctcctgaaaa ctaggtgtcc	60
agtggctaag agaactcgat ttcaagcaat tctgaaagga aaaccagcat gacacagaat	120
ctcaaattcc caaacagggg ctctgtggga aaaatgaggg aggaccttg tatctcgggt	180
tttagcaagt taaaatgaan atgacaggaa aggcttattt atcaacaaag agaagagttg	240
ggatgcttct aaaaaaaact ttggtagaga aaataggaat gctnaatcct agggaagcct	300
gtaacaatct acaattggtc ca	322

<210> 133

<211> 278

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(278)

<223> n = A,T,C or G

<400> 133

acaagccttc acaagtttaa ctaaattggg attaatcttt ctgtanttat ctgcataatt	60
cttgtttttc tttccatctg gctcctgggt tgacaatttg tggaaacaac tctattgcta	120
ctattttaaaa aaaatcacaa atctttccct ttaagctatg ttnaattcaa actattcctg	180
ctattcctgt tttgtcaaag aaatttatatt tttcaaaata tgtntatttg tttgatgggt	240
cccacgaaac actaataaaa accacagaga ccagcctg	278

<210> 134

<211> 121

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(121)

<223> n = A,T,C or G

<400> 134

gtttanaaaa cttgttttagc tccatagagg aaagaatggt aaactttgta ttttaaaaca	60
tgattctctg aggttaaact tggttttcaa atgttatatt tacttgtatt ttgcttttgg	120
t	121

<210> 135

<211> 350
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(350)
 <223> n = A,T,C or G

<400> 135
 acttanaaacc atgcctagca catcagaatc cctcaaagaa catcagtata atcctatacc 60
 atancaagtg gtgactgggt aagcgtgcga caaaggtcag ctggcacatt acttgtgtgc 120
 aaacttgata cttttgttct aagtaggaac tagtatacag tncctaggan tggtagtcca 180
 ggggtgcccc caactcctgc agccgctcct ctgtgccagn ccctgnaagg aactttcgct 240
 ccacctcaat caagccctgg gccatgctac ctgcaattgg ctgaacaaac gtttgctgag 300
 ttcccaagga tgcaaagcct ggtgctcaac tcctggggcg tcaactcagt 350

<210> 136
 <211> 399
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(399)
 <223> n = A,T,C or G

<400> 136
 tgtaccgtga agacgacaga agttgcatgg cagggacagg gcagggccga ggccagggtt 60
 gctgtgattg tatccgaata ntctcgtga gaaaagataa tgagatgacg tgagcagcct 120
 gcagacttgt gtctgccttc aanaagccag acaggaaggc cctgcctgcc ttggctctga 180
 cctggcgccc agccagccag ccacagggtg gcttcttcct tttgtggtga caacnccaag 240
 aaaactgcag agggccaggg tcagggtgtna gtgggtangt gaccataaaa caccagggtgc 300
 tcccaggaac ccgggcaaag gccatcccca cctacagcca gcatgcccac tggcgtgatg 360
 ggtgcagang gatgaagcag ccagntgttc tgctgtggt 399

<210> 137
 <211> 165
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(165)
 <223> n = A,T,C or G

<400> 137
 actggtgtgg tngggggtga tgctggtggt anaagttgan gtgacttcan gatggtgtgt 60
 ggaggaagtg tgtgaacgta gggatgtaga ngttttggcc gtgctaaatg agcttcggga 120
 ttggctggtc ccaactggtg tcactgtcat tggtaggggt cctgt 165

<210> 138
 <211> 338
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(338)
 <223> n = A,T,C or G

<400> 138

actcactgga	atgccacatt	cacaacagaa	tcagaggtct	gtgaaaacat	taatggctcc	60
ttaactttctc	cagtaagaat	cagggacttg	aaatggaaac	gttaacagcc	acatgcccac	120
tgctgggcag	tctcccatgc	cttccacagt	gaaagggctt	gagaaaaatc	acatccaatg	180
tcattgtgttt	ccagccacac	caaaagggtgc	ttgggggtgga	gggctggggg	catananggt	240
cangcctcag	gaagcctcaa	gttccattca	gctttgccac	tgtacattcc	ccatntttaa	300
aaaaactgat	gccttttttt	tttttttttg	taaaattc			338

<210> 139

<211> 382

<212> DNA

<213> Homo sapien

<400> 139

gggaatcttg	gtttttggca	tctggtttgc	ctatagccga	ggccactttg	acagaacaaa	60
gaaagggact	tcgagtaaga	aggtgattta	cagccagcct	agtggccgaa	gtgaaggaga	120
attcaaacag	acctcgctcat	tcctgggtgtg	agcctgggtcg	gctcaccgcc	tatcatctgc	180
atattgcctta	ctcaggtgct	accggactct	ggccctgat	gtctgtagtt	tcacaggatg	240
ccttattttgt	cttctacacc	ccacagggcc	ccctacttct	tcggatgtgt	ttttaataat	300
gtcagctatg	tgccccatcc	tccttcatgc	cctccctccc	tttctacca	ctgctgagtg	360
gcctggaact	tgtttaaagt	gt				382

<210> 140

<211> 200

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(200)

<223> n = A,T,C or G

<400> 140

accaaancctt	ctttctgttg	tgttngattt	tactataggg	gtttngcttn	ttctaaanat	60
actttttcatt	taacancctt	tgtaagtgt	caggctgcac	tttgctccat	anaattattg	120
ttttcacatt	tcaacttgta	tgtgtttgtc	tcttanagca	ttggtgaaat	cacatatttt	180
atattcagca	taaaggagaa					200

<210> 141

<211> 335

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(335)

<223> n = A,T,C or G

<400> 141

actttatttt	caaaacactc	atatgttgca	aaaaacacat	agaaaaataa	agtttggtgg	60
gggtgctgac	taaacttcaa	gtcacagact	tttatgtgac	agattggagc	agggtttgtt	120
atgcatgtag	agaaccctaa	ctaatttatt	aaacaggata	gaaacaggct	gtctgggtga	180
aatggttctg	agaacctacc	aattcacctg	tcagatgctg	atanactagc	tcttcagatg	240
tttttctacc	agttcagaga	tnggttaatg	actanttcca	atggggaaaa	agcaagatgg	300
attcacaaac	caagtaattt	taaacaaaga	cactt			335

<210> 142

<211> 459

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(459)

<223> n = A,T,C or G

<400> 142

accagggttaa	tattgccaca	tatatccttt	ccaattgctg	gctaaacaga	cgtgtattta	60
gggttggttta	aagacaaccc	agcttaatat	caagagaaat	tgtgaccttt	catggagtat	120
ctgatggaga	aaacactgag	ttttgacaaa	tcttatttta	ttcagatagc	agtctgatca	180
cacatggtcc	aacaacactc	aaataataaa	tcaaataatna	tcagatgtta	aagattggtc	240
ttcaaacatc	atagccaatg	atgccccgct	tgcctataat	ctctccgaca	taaaaccaca	300
tcaacacctc	agtggccacc	aaaccattca	gcacagcttc	cttaactgtg	agctgtttga	360
agctaccagt	ctgagcacta	ttgactatnt	ttttcangct	ctgaatagct	ctagggatct	420
cagcangggg	gggaggaacc	agctcaacct	tggcgtant			459

<210> 143

<211> 140

<212> DNA

<213> Homo sapien

<400> 143

acatttcctt	ccaccaagtc	aggactcctg	gcttctgtgg	gagttcttat	cacctgaggg	60
aatccaaac	agtctctcct	agaaaggaat	agtgtcacca	acccacacca	tctccctgag	120
accatccgac	ttccctgtgt					140

<210> 144

<211> 164

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(164)

<223> n = A,T,C or G

<400> 144

acttcagtaa	caacatacaa	taacaacatt	aagtgtatat	tgccatcttt	gtcattttct	60
atctatacca	ctctcccttc	tgaaaacaan	aatcactanc	caatcactta	tacaaatttg	120
aggcaattaa	tccatatttg	ttttcaataa	ggaaaaaaag	atgt		164

<210> 145

<211> 303

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(303)

<223> n = A,T,C or G

<400> 145

acgtagacca	tccaactttg	tatttgtaat	ggcaaacatc	cagnagcaat	tcctaaacaa	60
actggagggt	atttataccc	aattatccca	ttcattaaca	tgccctcctc	ctcaggctat	120
gcaggacagc	tatcataagt	cggcccaggc	atccagatac	taccattttg	ataaacttca	180
gtaggggagt	ccatccaagt	gacaggctta	atcaaaggag	gaaatggaac	ataagcccag	240
tagtaaaatn	ttgcttagct	gaaacagcca	caaaagactt	accgccgtgg	tgattaccat	300
caa						303

<210> 146

<211> 327

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(327)
 <223> n = A,T,C or G

<400> 146
 actgcagctc aattagaagt ggtctctgac tttcatcanc ttctccctgg gctccatgac 60
 actggcctgg agtgactcat tgcctctggt gggtgagaga gctcctttgc caacaggcct 120
 ccaagtcagg gctgggattt gtttcctttc cacattctag caacaatatg ctggccactt 180
 cctgaacagg gaggggtggga ggagccagca tggaacaagc tgccactttc taaagtagcc 240
 agacttgccc ctgggcctgt cacacctact gatgaccttc tgtgcctgca ggatggaatg 300
 taggggtgag ctgtgtgact ctatggt 327

<210> 147
 <211> 173
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(173)
 <223> n = A,T,C or G

<400> 147
 acattgtttt tttagataa agcattgana gagctctcct taacgtgaca caatggaagg 60
 actggaacac ataccacat ctttgttctg agggataatt ttctgataaa gtctgtgtgt 120
 atattcaagc acatatgtta tatattattc agttccatgt ttatagccta gtt 173

<210> 148
 <211> 477
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(477)
 <223> n = A,T,C or G

<400> 148
 acaaccactt tatctcatcg aatttttaac ccaaactcac tcaactgtgcc tttctatcct 60
 atgggatata ttatttgatg ctccatttca tcacacatat atgaataata cactcatact 120
 gccctactac ctgctgcaat aatcacattc ccttcctgtc ctgaccctga agccattggg 180
 gtggtcctag tggccatcag tccangcctg caccttgagc ccttgagctc cattgctcac 240
 nccanccac ctcaccgacc ccatcctctt acacagctac ctccttgctc tctaacccca 300
 tagattatnt ccaaattcag tcaattaagt tactattaac actctaccgg acatgtccag 360
 caccactggg aagccttctc cagccaacac acacacacac acacncacac acacacatat 420
 ccaggcacag gctacctcat cttcacaatc acccctttaa ttaccatgct atggtgg 477

<210> 149
 <211> 207
 <212> DNA
 <213> Homo sapien

<400> 149
 acagttgtat tataatatca agaaataaac ttgcaatgag agcattttaag agggaagaac 60
 taacgtatth tagagagcca aggaaggtht ctgtggggag tgggatgtaa ggtggggcct 120
 gatgataaat aagagtcagc caggtaagtg ggtggtgtgg tatgggcaca gtgaagaaca 180
 tttcaggcag agggaacagc agtgaaa 207

<210> 150
 <211> 111
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(111)
 <223> n = A,T,C or G

<400> 150
 accttgattt cattgctgct ctgatggaaa cccaactatc taatttagct aaaacatggg 60
 cacttaaattg tggtcagtgt ttggacttgt taactantgg catctttggg t 111

<210> 151
 <211> 196
 <212> DNA
 <213> Homo sapien

<400> 151
 agcgcggcag gtcatttga acattccaga tacctatcat tactcgatgc tgttgataac 60
 agcaagatgg ctttgaactc agggtcacca ccagctattg gaccttacta tgaaaaccat 120
 ggataccaac cggaaaaccc ctatcccgca cagcccaactg tggccccac tgtctacgag 180
 gtgcatccgg ctcagt 196

<210> 152
 <211> 132
 <212> DNA
 <213> Homo sapien

<400> 152
 acagcacttt cacatgtaag aaggagaaaa ttcctaaatg taggagaaaag ataacagaaac 60
 cttccctttt tcatctagtgt gtggaaacct gatgctttat gttgacagga atagaaccag 120
 gagggagttt gt 132

<210> 153
 <211> 285
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(285)
 <223> n = A,T,C or G

<400> 153
 acaanaccca nganaggcca ctggccgtgg tgtcatggcc tccaaacatg aaagtgtcag 60
 cttctgctct tatgtcctca tctgacaact ctttaccatt tttatcctcg ctcagcagga 120
 gcacatcaat aaagtccaaa gtcttggact tggccttggc ttggaggaag tcatcaaac 180
 cctggctagt gaggggtgcg cgccgctcct ggatgacggc atctgtgaag tcgtgcacca 240
 gtctgcaggc cctgtggaag cgccgtccac acggagtnag gaatt. 285

<210> 154
 <211> 333
 <212> DNA
 <213> Homo sapien

<400> 154
 accacagtcc tgttgggcca gggcttcatg accctttctg tgaaaagcca tattatcacc 60
 accccaaatt tttccttaaa tatctttaac tgaaggggc agcctcttga ctgcaaagac 120
 cctaagccgg ttacacagct aactcccact ggccctgatt tgtgaaattg ctgctgcctg 180
 attggcacag gagtcgaagg tgttcagctc ccctcctcgg tggaacgaga ctctgatttg 240
 agtttcacaa attctcgggc cacctcgtca ttgctcctct gaaataaaat ccggagaaatg 300
 gtcaggcctg tctcatccat atggatcttc cgg 333

<210> 155

<211> 308
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(308)
 <223> n = A,T,C or G

<400> 155
 actggaaata ataaaaccca catcacagtg ttgtgtcaaa gatcatcagg gcatggatgg 60
 gaaagtgcct tgggaactgt aaagtgccta acacatgatc gatgattttt gttataatat 120
 ttgaatcacg gtgcatacaa actctcctgc ctgctcctcc tgggccccag cccagcccc 180
 atcacagctc actgctctgt tcatccaggc ccagcatgta gtggctgatt cttcttggt 240
 gcttttagcc tccanaagtt tctctgaagc caaccaaacc tctangtgta aggcatgctg 300
 gccctggt 308

<210> 156
 <211> 295
 <212> DNA
 <213> Homo sapien

<400> 156
 accttgctcg gtgcttgga catattagga actcaaaata tgagatgata acagtgccta 60
 ttattgatta ctgagagAAC tgtagacat ttagttgaag attttctaca caggaactga 120
 gaataggaga ttatgtttgg ccctcatatt ctctcctatc ctcttgctc cattctatgt 180
 ctaatatatt ctcaatcaaa taaggtttagc ataatcagga aatcgaccaa ataccaatat 240
 aaaaccagat gtctatcctt aagattttca aatagaaaac aaattaacag actat 295

<210> 157
 <211> 126
 <212> DNA
 <213> Homo sapien

<400> 157
 acaagtttaa atagtgtgtg cactgtgcat gtgctgaaat gtgaaatcca ccacatttct 60
 gaagagcaaa acaaatcttg tcatgtaatc tctatcttgg gtcgtgggta tatctgtccc 120
 cttagt 126

<210> 158
 <211> 442
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(442)
 <223> n = A,T,C or G

<400> 158
 acccactggt cttggaaaca cccatcctta atacgatgat ttttctgtcg tgtgaaaatg 60
 aanccagcag gctgccccta gtcagtcctt ccttccagag aaaaagagat ttgagaaagt 120
 gcctgggtaa ttcaccatta atttctctcc ccaaactctc tgagtcttcc cttaatat 180
 ctggtggttc tgaccaaagc aggtcatggt ttgttgagca tttgggatcc cagtgaagta 240
 natgtttgta gccttgcata cttagccctt cccacgcaca aacggagtgg cagagtggg 300
 ccaaccctgt tttcccagtc cagtagaca gattcacagt gcggaattct ggaagctgga 360
 nacagacggg ctctttgcag agccgggact ctgagangga catgagggcc tctgcctctg 420
 tgttcattct ctgatgtcct gt 442

<210> 159
 <211> 498
 <212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(498)

<223> n = A,T,C or G

<400> 159

acttccaggt	aacgttggtg	tttccggtga	gcctgaactg	atgggtgacg	ttgtagggttc	60
tccaacaaga	actgaggttg	cagagcgggt	aggggaagagt	gctgttccag	ttgcacctgg	120
gctgctgtgg	actgttggtg	attcctcact	acggcccaag	gttgtggaac	tggcanaaaag	180
gtgtgtgtgt	gganttgagc	tcgggcggct	gtggtaggtt	gtgggctctt	caacaggggc	240
tgctgtggtg	ccgggangtg	aangtggttg	gtcacttgag	cttggccagc	tctggaaagt	300
antanattct	tcctgaaggc	cagcgttgt	ggagctggca	ngggtcantg	ttgtgtgtaa	360
cgaaccagt	ctgctgtggg	tgggtgtana	tcctccacaa	agcctgaagt	tatggtgtcn	420
tcaggtaana	atgtggtttc	agtgtccctg	ggcngctgtg	gaaggttgta	nattgtcacc	480
aagggaataa	gctgtggt					498

<210> 160

<211> 380

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(380)

<223> n = A,T,C or G

<400> 160

acctgcatcc	agcttccctg	ccaaactcac	aaggagacat	caacctctag	acagggaaaac	60
agcttcagga	tacttccagg	agacagagcc	accagcagca	aaacaaatat	tcccatgcct	120
ggagcatggc	atagaggaag	ctganaaatg	tgggggtctga	ggaagccatt	tgagtctggc	180
cactagacat	ctcatcagcc	acttgtgtga	agagatgccc	catgacccca	gatgcctctc	240
ccacccttac	ctccatctca	cacacttgag	ctttccactc	tgtataattc	taacatcctg	300
gagaaaaatg	gcagtttgac	cgaacctgtt	cacaacggta	gaggctgatt	tctaacgaaa	360
cttgtagaat	gaagcctgga					380

<210> 161

<211> 114

<212> DNA

<213> Homo sapien

<400> 161

actccacatc	ccctctgagc	aggcggttgt	cgttcaaggt	gtatttggcc	ttgcctgtca	60
cactgtccac	tggcccctta	tccacttggt	gcttaatccc	tcgaaagagc	atgt	114

<210> 162

<211> 177

<212> DNA

<213> Homo sapien

<400> 162

actttctgaa	tcgaatcaaa	tgatacttag	tgtagtttta	atatacctcat	atatatcaaa	60
gttttactac	tctgataatt	ttgtaaacca	ggtaaccaga	acatccagtc	atacagcttt	120
tggtgatata	taacttggca	ataacccagt	ctggtgatac	ataaaactac	tcactgt	177

<210> 163

<211> 137

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(137)
 <223> n = A,T,C or G

<400> 163
 catttataca gacaggcgtg aagacattca cgacaaaaac gcgaaattct atcccgtgac 60
 canagaaggc agctacggct actcctacat cctggcgtgg gtggccttcg cctgcacctt 120
 catcagcggc atgatgt 137

<210> 164
 <211> 469
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(469)
 <223> n = A,T,C or G

<400> 164
 cttatcacaa tgaatgttct cctgggcagc gttgtgatct ttgccacctt cgtgacttta 60
 tgcaatgcat catgctatatt catacctaata gagggagttc caggagattc aaccaggaaa 120
 tgcattgcat tcaaaggaaa caaacaccca ataaactcgg agtggcagac tgacaactgt 180
 gagacatgca cttgctacga aacagaaatt tcatgttgca cccttgtttc tacacctgtg 240
 ggttatgaca aagacaactg ccaaagaatc ttcaagaagg aggactgcaa gtatatcgtg 300
 gtggagaaga aggacccaaa aaagacctgt tctgtcagtg aatggataat ctaatgtgct 360
 tctagtaggc acagggtctc caggccaggc ctcattctcc tctggcctct aatagtcaat 420
 gattgtgtag ccatgcctat cagtaaaaag atntttgagc aaacacttt 469

<210> 165
 <211> 195
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(195)
 <223> n = A,T,C or G

<400> 165
 acagtttttt atanatatcg acattgccgg cacttggtgtt cagtttcata aagctgggtg 60
 atccgctgtc atccactatt ccttggttag agtaaaaatt attcttatag cccatgtccc 120
 tgcaggccgc ccgcccgtag ttctcgttcc agtcgtcttg gcacacaggg tgccaggact 180
 tcctctgaga tgagt 195

<210> 166
 <211> 383
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(383)
 <223> n = A,T,C or G

<400> 166
 acatcttagt agtgtggcac atcagggggc catcagggtc acagtcactc atagcctcgc 60
 cgaggctcga gtccacacca ccggtgtagg tgtgtcfaat cttgggcttg gcgcccacct 120
 ttggagaagg gatatgctgc acacacatgt ccacaaagcc tgtgaactcg ccaaagaatt 180
 ttgacagacc agcctgagca aggggcggat gttcagcttc agctcctcct tcgtcagggtg 240
 gatgccaacc tcgtctangg tccgtgggaa gctggtgtcc acntcaccta caacctgggc 300
 gangatctta taaagaggct ccnagataaa ctccacgaaa cttctctggg agctgctagt 360

nggggccttt ttggtgaact ttc

383

<210> 167

<211> 247

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(247)

<223> n = A,T,C or G

<400> 167

acagagccag	accttggcca	taaataaanc	agagattaag	actaaacccc	aagtcganat	60
tggagcagaa	actggagcaa	gaagtgggcc	tggggctgaa	gtagagacca	aggccactgc	120
tatanccata	cacagagcca	actctcaggc	caaggcnatg	gttggggcag	anccagagac	180
tcaatctgan	tccaaagtgg	tggctggaac	actggtcatg	acanaggcag	tgactctgac	240
tgangtc						247

<210> 168

<211> 273

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(273)

<223> n = A,T,C or G

<400> 168

acttctaagt	tttctagaag	tggaaggatt	gtantcatcc	tgaaaatggg	tttacttcaa	60
aatccctcan	ccttggttctt	cacnactgtc	tatactgana	gtgtcatgtt	tccacaaagg	120
gctgacacct	gagcctgnat	tttcaactcat	ccctgagaag	ccctttccag	taggggtgggc	180
aattcccaac	ttccttgcca	caagcttccc	aggctttctc	ccctgggaaa	ctccagcttg	240
agtcccagat	acactcatgg	gctgccctgg	gca			273

<210> 169

<211> 431

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(431)

<223> n = A,T,C or G

<400> 169

acagccttgg	cttccccaaa	ctccacagtc	tcagtgcaga	aagatcatct	tccagcagtc	60
agctcagacc	agggtcaaag	gatgtgacat	caacagtttc	tggtttcaga	acaggttcta	120
ctactgtcaa	atgaccccc	atacttcctc	aaaggctgtg	gtaagttttg	cacaggtgag	180
ggcagcagaa	aggggggtant	tactgatgga	caccatcttc	tctgtatact	ccacactgac	240
cttgccatgg	gcaaaggccc	ctaccacaaa	aacaatagga	tcactgctgg	gcaccagctc	300
acgcacatca	ctgacaaccg	ggatggaaaa	agaantgcc	actttcatac	atccaactgg	360
aaagtgatct	gatactggat	tcttaattac	cttcaaaagc	ttctgggggc	catcagctgc	420
tcgaacactg	a					431

<210> 170

<211> 266

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(266)
 <223> n = A,T,C or G

<400> 170
 acctgtgggc tgggctgtta tgcctgtgcc ggctgtctgaa agggagttca gaggtggagc 60
 tcaaggagct ctgcaggcat tttgccaanc ctctccanag canagggagc aacctacact 120
 ccccgctaga aagacaccag attggagtcc tgggaggggg agttgggggtg ggcatttgat 180
 gtatacttgt cacctgaatg aangagccag agaggaanga gacgaanatg anattggcct 240
 tcaaagctag gggctctggca ggtgga 266

<210> 171
 <211> 1248
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(1248)
 <223> n = A,T,C or G

<400> 171
 ggcagccaaa tcataaacgg cgaggactgc agcccgcaact cgcagccctg gcaggcggca 60
 ctggtcatgg aaaacgaatt gttctgctcg ggcgtcctgg tgcattccgca gtgggtgctg 120
 tcagccgcac actgtttcca gaagtgaagt cagagctcct acaccatcgg gctgggcctg 180
 cacagtcttg aggcggacca agagccaggg agccagatgg tggaggccag cctctccgta 240
 cggcaccag agtacaacag acccttgctc gctaacgacc tcatgctcat caagttggac 300
 gaatccgtgt ccgagtctga caccatccgg agcatcagca ttgcttcgca gtgccctacc 360
 gcggggaaact cttgcctcgt ttctggctgg ggtctgctgg cgaacggcag aatgcctacc 420
 gtgctgcagt gcgtgaacgt gtcggtgggtg tctgaggagg tctgcagtaa gctctatgac 480
 ccgctgtacc accccagcat gttctgcgcc ggcggagggg aagaccagaa ggactcctgc 540
 aacggtgact ctggggggcc cctgatctgc aacgggtact tgcagggcct tgtgtctttc 600
 ggaaaagccc cgtgtggcca agttggcgtg ccagggtgtct acaccaacct ctgcaaattc 660
 actgagtggg tagagaaaac cgtccaggcc agttaactct ggggactggg aacctatgaa 720
 attgaccccc aaatacatcc tgcggaagga attcaggaat atctgttccc agccccctct 780
 ccctcaggcc caggagtcca ggcggccagc ccctcctccc tcaaaccaag ggtacagatc 840
 cccagccccct cctccctcag acccaggagt ccagaccccc cagccccctc tccctcagac 900
 ccaggagtcc agccccctct ccctcagacc caggagtcca gacccccccag cccctcctcc 960
 ctacagacca ggggtccagg cccccaaccc ctctcctctc agactcagag gtccaagccc 1020
 ccaacccntc attccccaga cccagaggtc cagggtcccag cccctcntcc ctacagacca 1080
 gcggtccaat gccacctaga ctntccctgt acacagtgc cccttggtggc acgttgacct 1140
 aaccttacca gttggttttt catTTTTngt ccctttcccc tagatccaga aataaagttt 1200
 aagagaagng caaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1248

<210> 172
 <211> 159
 <212> PRT
 <213> Homo sapien

<220>
 <221> VARIANT
 <222> (1)...(159)
 <223> Xaa = Any Amino Acid

<400> 172
 Met Val Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro
 1 5 10 15
 Leu Leu Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser
 20 25 30
 Glu Ser Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr
 35 40 45
 Ala Gly Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly

56

50 55 60
 Arg Met Pro Thr Val Leu Gln Cys Val Asn Val Ser Val Val Ser Glu
 65 70 75 80
 Glu Val Cys Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe
 85 90 95
 Cys Ala Gly Gly Gln Xaa Gln Xaa Asp Ser Cys Asn Gly Asp Ser
 100 105 110
 Gly Gly Pro Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe
 115 120 125
 Gly Lys Ala Pro Cys Gly Gln Val Gly Val Pro Gly Val Tyr Thr Asn
 130 135 140
 Leu Cys Lys Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Ala Ser
 145 150 155

<210> 173

<211> 1265

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(1265)

<223> n = A,T,C or G

<400> 173

ggcagcccg	actcgagcc	ctggcaggg	gcactgggtca	tggaaaacga	attgttctgc	60
tcgggctcc	tggtgcatcc	gcagtgggtg	ctgtcagccg	cacactgttt	ccagaactcc	120
tacaccatcg	ggctgggcct	gcacagtctt	gaggccgacc	aagagccagg	gagccagatg	180
gtggaggcca	gcctctccgt	acggcaccca	gagtacaaca	gacccttgct	cgctaacgac	240
ctcatgctca	tcaagttgga	cgaatccgtg	tccgagtctg	acaccatccg	gagcatcagc	300
attgcttgcg	agtgccttac	cgcggggaac	tcttgctctg	tttctggctg	gggtctgctg	360
gcgaacgggtg	agctcacggg	tgtgtgtctg	ccctcttcaa	ggaggtcctc	tgcccagtcg	420
cgggggctga	cccagagctc	tgcgtcccag	gcagaatgcc	taccgtgctg	cagtgcgtga	480
acgtgtcggt	ggtgtctgag	gaggtctgca	gtaagctcta	tgaccgctg	taccaccca	540
gcatgtttctg	cgccggcgga	gggcaagacc	agaaggactc	ctgcaacggg	gactctgggg	600
ggccccgat	ctgcaacggg	tacttgagag	gccttgtgtc	tttcggaaaa	gccccgtgtg	660
gccaagttag	cgtgccaggt	gtctacacca	acctctgcaa	attcactgag	tggatagaga	720
aaaccgtcca	ggccagttaa	ctctggggac	tgggaaccca	tgaaattgac	ccccaaatac	780
atcctgcgga	aggaattcag	gaatatctgt	tcccagcccc	tccctccctca	ggccccaggag	840
tccaggcccc	cagccccctc	tccctcaaac	caagggtaca	gatccccagc	ccctcctccc	900
tcagaccag	gagtccagac	ccccagccc	ctcctccctc	agaccagga	gtccagcccc	960
tccctcntca	gaccagggag	tccagacccc	ccagcccctc	ctccctcaga	cccaggggtt	1020
gaggccccca	acccctcctc	cttcagagtc	agaggtccaa	gcccccaacc	cctcgttccc	1080
cagaccagga	ggttnaggtc	ccagcccctc	ttcctcaga	cccagnggtc	caatgccacc	1140
tagattttcc	ctgnacacag	tgcccccttg	tggngangtg	acccaacctt	accagttggt	1200
ttttcatttt	tngtcccttt	cccctagatc	cagaaataaa	gtttaagaga	ngngcaaaaa	1260
aaaaa						1265

<210> 174

<211> 1459

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(1459)

<223> n = A,T,C or G

<400> 174

ggtcagccgc	acactgtttc	cagaagttag	tgcagagctc	ctacaccatc	gggctggggc	60
tgcacagtct	tgaggccgac	caagagccag	ggagccagat	ggtggaggcc	agcctctccg	120
tacggcaccc	agagtacaac	agacccttgc	tcgctaacga	cctcatgtct	atcaagttgg	180

acgaatccgt	gtccgagttc	gacaccatcc	ggagcatcag	cattgcttcg	cagtgcccta	240
ccgcggggaa	ctcttgccct	gtttctggct	gggtctgct	ggcgaacggt	gagctcacgg	300
gtgtgtgtct	gccctcttca	aggaggtcct	ctgcccagtc	gcgggggctg	accagagagct	360
ctgcgtccca	ggcagaatgc	ctaccgtgct	gcagtgcgtg	aacgtgtcgg	tgggtgtctga	420
ngaggtctgc	antaagctct	atgacccgct	gtaccacccc	ancatgttct	gcgccggcgg	480
agggcaagac	cagaaggact	cctgcaacgt	gagagagggg	aaaggggagg	gcaggcgact	540
cagggaaagg	tggagaaggg	ggagacagag	acacacaggg	ccgcatggcg	agatgcagag	600
atggagagac	acacagggag	acagtgacaa	ctagagagag	aaactgagag	aaacagagaa	660
ataaacacag	gaataaagag	aagcaaagga	agagagaaac	agaaacagac	atggggaggc	720
agaaacacac	acacatagaa	atgcagttga	ccttccaaca	gcattggggcc	tgagggcggt	780
gacctccacc	caatagaaaa	tectcttata	acttttgact	ccccaaaaac	ctgactagaa	840
atagcctact	gttgacgggg	agccttacca	ataacataaa	tagtcgattt	atgcatacgt	900
tttatgcatt	catgatatac	ctttgttgga	attttttgat	atttctaagc	tacacagttc	960
gtctgtgaat	ttttttaaat	tgttgcaact	ctcctaaaat	ttttctgatg	tgtttattga	1020
aaaaatccaa	gtataagtgg	acttgtgcat	tcaaaccagg	gttgttcaag	ggtcaactgt	1080
gtaccagag	ggaaacagtg	acacagattc	atagaggtga	aacacgaaga	gaaacaggaa	1140
aatcaagac	tctacaaaga	ggctgggcag	ggtggctcat	gcctgtaatc	gcagcacttt	1200
gggagggcag	gcaggcagat	cacttgaggt	aaggagttca	agaccagcct	ggccaaaatg	1260
gtgaaatcct	gtctgtacta	aaaatacaaa	agttagctgg	atatggtggc	aggcgcctgt	1320
aatcccagct	acttggggag	ctgaggcagg	agaattgctt	gaatatggga	ggcagaggtt	1380
gaagtgaagt	gagatcacac	cactatactc	cagctggggc	aacagagtaa	gactctgtct	1440
caaaaaaaaa	aaaaaaaaa					1459

<210> 175

<211> 1167

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(1167)

<223> n = A,T,C or G

<400> 175

gcgcagccct	ggcaggcggc	actgggtcatg	gaaaacgaat	tgttctgctc	gggcgtcctg	60
gtgcatccgc	agtgggtgct	gtcagccgca	cactgtttcc	agaactccta	caccatcggg	120
ctgggcctgc	acagtcttga	ggccgaccaa	gagccaggga	gccagatggt	ggaggccagc	180
ctctccgtac	ggcaccaga	gtacaacaga	ctcttgcctg	ctaacgacct	catgctcatc	240
aagttggacg	aatccgtgtc	cgagtctgac	accatccgga	gcatcagcat	tgcttcgcag	300
tgccctaccg	cggggaactc	ttgcctcgtn	tctggctggg	gtctgctggc	gaacggcaga	360
atgcctaccg	tgctgcactg	cgtgaacgtg	tccgtgggtg	ctgaggangt	ctgcagtaag	420
ctctatgacc	cgctgtacca	ccccagcatg	ttctgcgcgg	gcggagggca	agaccagaag	480
gactcctgca	acggtgactc	tgggggggccc	ctgatctgca	acgggtactt	gcagggcctt	540
gtgtctttcg	gaaaagcccc	gtgtggccaa	cttggcgtgc	caggtgtcta	caccaacctc	600
tgcaaattca	ctgagtggat	agagaaaacc	gtccagncca	gttaactctg	gggactggga	660
acccatgaaa	ttgaccccc	aatacatcct	gcggaangaa	ttcaggaata	tctgttccca	720
gccccctctc	cctcaggccc	aggagtccag	gccccagcc	cctcctccct	caaaccaagg	780
gtacagatcc	ccagcccctc	ctccctcaga	cccaggagtc	cagaccccc	agccccctnt	840
ccntcagacc	caggagtcca	gccccctctc	cntcagacgc	aggagtccag	acccccagc	900
ccntcctccg	tcagaccag	gggtgcaggc	ccccaacccc	tcntccntca	gagtcagagg	960
tcacagcccc	caacccctcg	ttccccagac	ccagaggtnc	aggtcccagc	ccctcctccc	1020
tcagaccag	cgggtccaatg	ccacctagan	tntccctgta	cacagtgcc	ccttgtggca	1080
ngttgaccca	accttaccag	ttggtttttc	attttttgtc	cctttccct	agatccagaa	1140
ataaagtnta	agagaagcgc	aaaaaaa				1167

<210> 176

<211> 205

<212> PRT

<213> Homo sapien

<220>

<221> VARIANT

<222> (1)...(205)

<223> Xaa = Any Amino Acid

<400> 176

```

Met Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp
 1      5      10      15
Val Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu
 20      25      30
Gly Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val
 35      40      45
Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Leu Leu Leu
 50      55      60
Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser
 65      70      75      80
Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly
 85      90      95
Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly Arg Met
 100      105      110
Pro Thr Val Leu His Cys Val Asn Val Ser Val Val Ser Glu Xaa Val
 115      120      125
Cys Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe Cys Ala
 130      135      140
Gly Gly Gly Gln Asp Gln Lys Asp Ser Cys Asn Gly Asp Ser Gly Gly
 145      150      155      160
Pro Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe Gly Lys
 165      170      175
Ala Pro Cys Gly Gln Leu Gly Val Pro Gly Val Tyr Thr Asn Leu Cys
 180      185      190
Lys Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Xaa Ser
 195      200      205

```

<210> 177

<211> 1119

<212> DNA

<213> Homo sapien

<400> 177

```

gcgcactcgc agccctggca ggcggcactg gtcattggaaa acgaattggt ctgctcgggc      60
gtcctgggtgc atccgcagtg ggtgctgtca gccgcacact gtttccagaa ctctacacc      120
atcgggctg gctgcacag tcttgaggcc gaccaagagc caggagacca gatggtggag      180
gccagcctct ccgtacggca cccagagtac aacagaccct tgctcgctaa cgacctcatg      240
ctcatcaagt tggacgaatc cgtgtccgag tctgacacca tccggagcat cagcattgct      300
tcgcagtgcc ctaccgcggg gaactcttgc ctgcttctg gctggggtct gctggcgaac      360
gatgctgtga ttgccatcca gtcccagact gtgggaggct gggagtgtga gaagctttcc      420
caaccctggc agggttgtac catttcggca acttccagtg caaggacgtc ctgctgcac      480
ctcactgggt gctcactact gctcactgca tcacccgaa cactgtgatc aactagccag      540
caccatagtt ctccgaagtc agactatcat gattactgtg ttgactgtgc tgtctattgt      600
actaaccatg ccgatgttta ggtgaaatta gcgtcacttg gcctcaacca tcttggtatc      660
cagttatcct cactgaattg agatttctctg cttcagtgtc agccattccc acataatttc      720
tgacctacag aggtgagggg tcatatagct cttcaaggat gctgggtactc cctcacaaa      780
ttcatttctc ctgtttagt gaaagggtgc cctctggag cctcccaggg tgggtgtgca      840
ggtcacaatg atgaatgtat gatcgtgttc ccattaccca aagcctttaa atccctcatg      900
ctcagtacac cagggcaggt ctagcatttc ttcatttagt gtatgctgtc cttcattgga      960
accacctcag gactcctgga ttctctgcct agttgagtc ctgcatgctg cctccttggg      1020
gagggtgagg agagggccca tggttcaatg ggatctgtgc agttgtaaca cattaggtgc      1080
ttaataaaca gaagctgtga tgttaaaaaa aaaaaaaaaa      1119

```

<210> 178

<211> 164

<212> PRT

<213> Homo sapien

<220>
 <221> VARIANT
 <222> (1)...(164)
 <223> Xaa = Any Amino Acid

<400> 178
 Met Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp
 1 5 10 15
 Val Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu
 20 25 30
 Gly Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val
 35 40 45
 Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro Leu Leu
 50 55 60
 Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser
 65 70 75 80
 Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly
 85 90 95
 Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Asp Ala Val
 100 105 110
 Ile Ala Ile Gln Ser Xaa Thr Val Gly Gly Trp Glu Cys Glu Lys Leu
 115 120 125
 Ser Gln Pro Trp Gln Gly Cys Thr Ile Ser Ala Thr Ser Ser Ala Arg
 130 135 140
 Thr Ser Cys Cys Ile Leu Thr Gly Cys Ser Leu Leu Leu Thr Ala Ser
 145 150 155 160
 Pro Gly Thr Leu

<210> 179
 <211> 250
 <212> DNA
 <213> Homo sapien

<400> 179
 ctggagtgcc ttggtgtttc aagcccctgc aggaagcaga atgcaccttc tgaggcacct 60
 ccagctgccc ccggccgggg gatgcgaggc tcggagcacc cttgcccggc tgtgattgct 120
 gccaggcact gttcatctca gcttttctgt ccctttgctc ccggcaagcg cttctgctga 180
 aagttcatat ctggagcctg atgtcttaac gaataaaggc cccatgctcc acccgaaaaa 240
 aaaaaaaaaa 250

<210> 180
 <211> 202
 <212> DNA
 <213> Homo sapien

<400> 180
 actagtccag tgtgttgga ttccattgtg ttgggcccaa cacaatggct acctttaaca 60
 tcacccagac ccgccccctg cccgtgcccc acgtgtctgc taacgacagt atgatgctta 120
 ctctgctact cggaaactat ttttatgtaa ttaatgtatg ctttcttgtt tataaatgcc 180
 tgatttaaaa aaaaaaaaaa aa 202

<210> 181
 <211> 558
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(558)
 <223> n = A,T,C or G

60

```

<400> 181
tccytthtkt naggtthtkk agacamceck agacctwaan ctgtgtcaca gacttcyngg      60
aatgtthtagg cagtgttagt aatttcytcg taatgattct gttattactt tcctnattct      120
ttattcctct ttcttctgaa gattaatgaa gttgaaaatt gaggtggata aatacaaaaa      180
ggtagtgtga tagtataagt atctaagtgc agatgaaagt gtgttatata tatccattca      240
aaattatgca agttagtaat tactcagggt taactaaatt actttaatat gctgttgaac      300
ctactctgtt ccttggttag aaaaaattat aaacaggact ttgttagttt gggaagccaa      360
attgataata ttctatgttc taaaagttgg gctatacata aattattaag aaatatggaw      420
ttttattccc aggaatatgg kgttcatttt atgaatatta cscrggatag awgtwtgagt      480
aaaaycagtt ttggtwaata ygtwaatatg tcmtaaataa acaakgcttt gacttatttc      540
caaaaaaaaa aaaaaaaaaa                                     558

```

```

<210> 182
<211> 479
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(479)
<223> n = A,T,C or G

```

```

<400> 182
acagggwttk grggatgcta agsccccrga rwtggtttga tccaaccctg gcttwttttc      60
agaggggaaa atggggccta gaagttacag mscatytagy tgggtgcgmg gcacccctgg      120
cstcacacag astcccgagt agctgggact acaggcacac agtcactgaa gcaggccctg      180
ttwgcaattc acgttgccac ctccaactta aacattcttc atatgtgatg tccttagtca      240
ctaaggttaa actttccac ccagaaaagg caacttagat aaaatcttag agtactttca      300
tactmttcta agtcctcttc cagcctcact kkgagtccctm cytgggggtt gataggaant      360
ntctcttggc tttctcaata aartctctat ycatctcatg tttaatttgg tacgcataara      420
awtgstgara aaattaaaat gttctggtty mactttaaaa araaaaaaaa aaaaaaaaaa      479

```

```

<210> 183
<211> 384
<212> DNA
<213> Homo sapien

```

```

<400> 183
aggcgggagc agaagctaaa gccaaagccc aagaagagtg gcagtgccag cactggtgcc      60
agtaccagta ccaataacag tgccagtgcc agtgccagca ccagtgggtg cttcagtgtc      120
ggtgccagcc tgaccgccac tctcacattt gggctcttcg ctggccttgg tggagctggt      180
gccagcacca gtggcagctc tgggtgcctgt ggtttctcct acaagtgaga ttttagatat      240
tgtaatcct gccagtcttt ctcttcaagc cagggtgcat cctcagaaac ctactcaaca      300
cagcactcta ggcagccact atcaatcaat tgaagttgac actctgcatt aratctattt      360
gccatttcaa aaaaaaaaaa aaaa                                     384

```

```

<210> 184
<211> 496
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(496)
<223> n = A,T,C or G

```

```

<400> 184
accgaattgg gaccgctggc ttataagcga tcatgttynt ccrgtatcac ctcaacgagc      60
agggagatcg agtctatacg ctgaagaaat ttgacctgat gggacaacag acctgctcag      120
cccatcctgc tcggttctcc ccagatgaca aatactctsg acaccgaatc accatcaaga      180
aacgcttcaa ggtgctcatg acccagcaac cgcgccctgt cctctgaggg tcccttaaac      240
tgatgtcttt tctgccacct gttacccttc ggagactccg taaccaaact cttcgggactg      300

```

tgagccctga	tgcctttttg	ccagccatac	tctttggcat	ccagtctctc	gtggcgattg	360
attatgcttg	tgtgaggcaa	tcatgggtgg	atcacccata	aagggaacac	atttgacttt	420
tttttctcat	attttaaatt	actacmagaw	tattwmagaw	waaatgawtt	gaaaaactst	480
taaaaaaaaa	aaaaaa					496

<210> 185
 <211> 384
 <212> DNA
 <213> Homo sapien

<400> 185						
gctggtagcc	tatggcgkgg	cccacggagg	ggctcctgag	gccacggrac	agtgacttcc	60
caagtatcyt	gcgcsgcgtc	ttctaccgtc	cctacctgca	gatcttcggg	cagattcccc	120
aggaggacat	ggacgtggcc	ctcatggagc	acagcaactg	yticgtcggag	cccggcttct	180
gggcacaccc	tcctggggcc	caggcgggca	cctgcgtctc	ccagtatgcc	aactggctgg	240
tggtgctgct	cctcgtcacc	ttcctgctcg	tggccaacat	cctgctggtc	aacttgctca	300
ttgccatgtt	cagttacaca	ttcggcaaaag	tacagggcaa	cagcgatctc	tactgggaag	360
gcgcagcgtt	accgcctcat	cggg				384

<210> 186
 <211> 577
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(577)
 <223> n = A,T,C or G

<400> 186						
gagttagctc	ctccacaacc	ttgatgaggt	cgtctgcagt	ggcctctcgc	ttcataccgc	60
tnccatcgte	atactgtagg	tttgccacca	cytcctggca	tcttggggcg	gcntaatatt	120
ccaggaaact	ctcaatcaag	tcaccgtcga	tgaaacctgt	gggctgggtc	tgtcttcgcg	180
tcgggtgtgaa	aggatctccc	agaaggagtg	ctcgatcttc	cccacacttt	tgatgacttt	240
attgagtcga	ttctgcatgt	ccagcaggag	gttgtaccag	ctctctgaca	gtgaggtcac	300
cagccctatc	atgccgttga	mcgtgccgaa	garccaccag	ccttggtgtg	gggkkggaag	360
ctcaccacaga	ttctgcatta	ccagagagcc	gtggcaaaag	acattgacaa	actcgcccag	420
gtggaaaaag	amcamctcct	ggargtgctn	gccgctcctc	gtcmgttggt	ggcagcgctw	480
tccttttgac	acacaaaaca	gttaaaggca	ttttcagccc	ccagaaantt	gtcatcatcc	540
aagatntcgc	acagcactna	tccagttggg	attaaat			577

<210> 187
 <211> 534
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(534)
 <223> n = A,T,C or G

<400> 187						
aacatcttcc	tgtataatgc	tgtgtaatat	cgatccgatn	ttgtctgstg	agaatycatw	60
actkggaaaa	gmaacattaa	agcctggaca	ctgggtattaa	aattcacaaat	atgcaacact	120
ttaaacagtg	tgtcaatctg	ctcccyynac	tttgtcatca	ccagtctggg	aakaagggtta	180
tgccctattc	acacctgtta	aaagggcgct	aagcattttt	gattcaacat	cttttttttt	240
gacacaagtc	cgaaaaaagc	aaaagtaaac	agttatyaat	ttgttagcca	attcactttc	300
ttcatgggac	agagccatyt	gatttaaaaa	gcaaattgca	taatattgag	cttyggggagc	360
tgatatttga	gcggaagagt	agcctttcta	cttcaccaga	cacaactccc	tttcatattg	420
ggatgttnac	naaagtwtat	tctctwacag	atgggatgct	tttgtggcaa	ttctgttctg	480
aggatctccc	agttttattta	ccacttgcac	aagaaggcgt	tttcttcctc	aggc	534

<210> 188
 <211> 761
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(761)
 <223> n = A,T,C or G

<400> 188
 agaaaccagt atctctnaaa acaacctctc ataccttggtg gacctaatgt tgtgtgcgtg 60
 tgtgtgtgcg cgcataattat atagacagggc acatcttttt tacttttcta aaagcttatg 120
 cctcttttgt atctatatct gtgaaagttt taatgatctg ccataatgtc ttggggacct 180
 ttgtcttctg tgtaaatggt actagagaaa acacctatnt tatgagtcaa tctagttngt 240
 tttattcgac atgaaggaaa ttccagatn acaacactna caaactctcc ctkgackarg 300
 ggggacaaag aaaagcaaaa ctgamcataa raaacaatwa cctgggtgaga arttgcataa 360
 acagaaatwr ggtagtatat tgaarnacag catcattaaa rmgttwtkt wttctccctt 420
 gcaaaaaaca tgtacngact tcccgttgag taatgccaaag ttgttttttt tatnataaaa 480
 cttgcccttc attacatggt tnaaagtggg gtgggtggggc aaaatatattga aatgatggaa 540
 ctgactgata aagctgtaca aataagcagt gtgcctaaca agcaacacag taatgttgac 600
 atgcttaatt cacaaatgct aatttcatta taaatgtttg ctaaaataca ctttgaacta 660
 tttttctgtn ttcccagagc tgagatntta gattttatgt agtatnaagt gaaaaantac 720
 gaaaataata acattgaaga aaaananaaa aaanaaaaaa a 761

<210> 189
 <211> 482
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(482)
 <223> n = A,T,C or G

<400> 189
 tttttttttt ttgtccgatn ctactatttt attgcaggan gtgggggtgt atgcaccgca 60
 caccgggggt atnagaagca agaaggaagg agggagggca cagccccttg ctgagcaaca 120
 aagccgcctg ctgccttctc tgtctgtctc ctggtgcagg cacatgggga gaccttcccc 180
 aaggcagggg ccaccagtcc aggggtggga atacaggggg tgggagtgt gcataagaag 240
 tgataggcac agggccaccg gtacagaccc ctccgctcct gacaggtnga tttcgaccag 300
 gtcattgtgc cctgccagc cacagcgtan atctggaaaa gacagaatgc tttccttttc 360
 aaatttggt ngctcatngaa ngggcanttt tccaantng gctnggtctt ggtacncttg 420
 gttcggccca gctcncgtc caaaaantat tcaccennct cnaattgct tgcnggnccc 480
 cc 482

<210> 190
 <211> 471
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(471)
 <223> n = A,T,C or G

<400> 190
 tttttttttt ttttaaaaca gtttttcaca acaaaattta ttagaagaat agtggttttg 60
 aaaactctcg catccagtga gaactacat acaccacatt acagctngga atgtnctcca 120
 aatgtctggt caaatgatac aatggaacca ttcaatctta cacatgcacg aaagaacaag 180
 cgcttttgac atacaatgca caaaaaaaaa aggggggggg gaccacatgg attaaaattt 240
 taagtactca tcacatacat taagacacag ttctagtcca gtcnaaaatc agaactgcnt 300

tgaaaaattt	catgtatgca	atccaaccaa	agaacttnat	tggtgatcat	gantncteta	360
ctacatcnac	cttgcatt	gccaggaacn	aaaagttnaa	ancacncngt	acaaaaanaa	420
tctgtaattn	anttcaacct	ccgtacngaa	aaatnttnt	tatacactcc	c	471

<210> 191
 <211> 402
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(402)
 <223> n = A,T,C or G

<400> 191						
gagggattga	aggtctgttc	tastgtcggm	ctgttcagcc	accaactcta	acaagttgct	60
gtcttccact	cactgtctgt	aagcttttta	accagacwg	tatcttcata	aatagaacaa	120
attcttcacc	agtcacatct	tctaggacct	ttttggattc	agttagtata	agctcttcca	180
cttcctttgt	taagacttca	tctggtaaag	tcttaagttt	tgtagaaagg	aattyaattg	240
ctcgttctct	aacaatgtcc	tctccttgaa	gtatttggt	gaacaacca	cctaaagtcc	300
ctttgtgcat	ccattttaaa	tatacttaat	agggcattgk	tnactaggt	taaattctgc	360
aagagtcatc	tgtctgcaaa	agttgcgtta	gtatatctgc	ca		402

<210> 192
 <211> 601
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(601)
 <223> n = A,T,C or G

<400> 192						
gagctcggat	ccaataatct	ttgtctgagg	gcagcacaca	tatncagtgc	catggnaact	60
ggtctacccc	acatgggagc	agcatgccgt	agntatataa	ggtcattccc	tgagtcagac	120
atgcytyttt	gaytaccgtg	tgccaagtgc	tggtgattct	yaacacacyt	ccatcccgt	180
cttttggtga	aaaactggca	cttkctctga	actagcarga	catcacttac	aaattcacc	240
acgagacact	tgaaaggtgt	aacaaagcga	ytcttgcat	gctttttgtc	cctccggcac	300
cagttgtcaa	tactaaccgc	ctggtttgcc	tccatcacat	ttgtgatctg	tagctctgga	360
tacatctcct	gacagtactg	aagaacttct	tcttttggtt	caaaagcarc	tcttggtgcc	420
tggttgatca	ggttcccat	tcccagtcyg	aatgttcaca	tggcatattt	wacttcccac	480
aaaacattgc	gatttgaggc	tcagcaacag	caaatcctgt	tccggcattg	gctgcaagag	540
cctcgatgta	gccggccagc	gccaaaggcag	gcgccgtgag	cccaccagc	agcagaagca	600
g						601

<210> 193
 <211> 608
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(608)
 <223> n = A,T,C or G

<400> 193						
atacagccca	natcccacca	cgaagatgcg	cttggtgact	gagaacctga	tgcggtcact	60
ggtcccgtctg	tagccccagc	gactctccac	ctgctggaag	cggttgatgc	tgcaactcytt	120
cccaacgcag	gcagmagcgg	gsccgggtcaa	tgaactccay	tcgtggcttg	gggtkgacgg	180
tkaagtgcag	gaagaggctg	accacctcgc	ggtcaccag	gatgcccgac	tgtgcgggac	240
ctgcagcgaa	actcctcgat	ggatcatgagc	gggaagcgaa	tgaggccag	ggccttgccc	300

```

agaaccttcc gcctgttctc tggcgtcacc tgcagctgct gccgctgaca ctccggcctcg      360
gaccagcgga caaacggcrt tgaacagccg cacctcacgg atgccagtg tgctcgcgctc      420
caggammgsc accagcgtgt ccaggtcaat gtcggtgaag cctcccgcg gtrattggcgt      480
ctgcagtgtt tttgtcgtat ttctccaggc acaggtggtg cagctgcggt tcatcgaaga      540
gtcgcgcctg cgtgagcagc atgaaggcgt tgtcggctcg cagttcttct tcaggaactc      600
cacgcaat                                         608

```

<210> 194

<211> 392

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(392)

<223> n = A,T,C or G

<400> 194

```

gaacggctgg accttgcctc gcattgtgct tgctggcagg gaataccttg gcaagcagyt      60
ccagtccgag cagccccaga ccgctgccgc ccgaagctaa gcctgcctct ggccttcccc      120
tccgcctcaa tgcagaacca gtagtgggag cactgtgttt agagttaaga gtgaacactg      180
tttgatttta cttgggaatt tcctctgtta tatagctttt cccaatgcta atttccaaac      240
aacaacaaca aaataacatg tttgcctggt aagttgtata aaagtaggtg attctgtatt      300
taaagaaaat attactgtta catatactgc ttgcaatttc tgtattttatt gktnctstgg      360
aaataaatat agttattaaa gggtgtcant cc                                         392

```

<210> 195

<211> 502

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(502)

<223> n = A,T,C or G

<400> 195

```

ccsttkgagg ggtkaggkyc cagttyccga gtggaagaaa caggccagga gaagtgcgtg      60
ccgagctgag gcagatgttc ccacagtgac cccagagacc stgggstata gtytctgacc      120
cctcncaagg aaagaccacs ttctggggac atgggctgga gggcaggacc tagaggcacc      180
aaggggaagg cccattccgg ggstgttccc cgaggaggaa ggggaagggc tctgtgtgcc      240
ccccasgagg aagaggccct gagtccctgg atcagacacc ccttcacgtg tatccccaca      300
caaatgcaag ctcaccaagg tccccctcga gtcccccttc stacaccctg amcgggccact      360
gscscacacc caccagagc acgccaccgc ccattgggar tgtgtcaag gartcgcnng      420
gcarcgtgga catctngtcc cagaaggggg cagaatctcc aatagangga ctgarcmtt      480
gctnanaaaa aaaaanaaaa aa                                         502

```

<210> 196

<211> 665

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(665)

<223> n = A,T,C or G

<400> 196

```

ggttacttgg ttctattgcc accacttagt ggatgtcatt tagaaccatt ttgtctgctc      60
cctctggaag ccttgcgag agcggacttt gtaattgttg gagaataact gctgaatttt      120
wagctgtttk gagttgatts gcaccactgc acccacaact tcaatatgaa aacyawttga      180
actwatthtat tatcttgtga aaagtataac aatgaaaatt ttgttcatac tgtattkac      240

```

```

aagtatgatg aaaagcaawa gatatatatt cttttattat gttaaattat gattgccatt 300
attaatcggc aaaatgtgga gtgtatgttc ttttcacagt aatatatgcc ttttgtaact 360
tcacttggtt attttattgt aaatgarta caaaattcct aatttaagar aatgggatgt 420
watattttatt tcattaattt ctttcctkgt ttacgtwaat tttgaaaaga wtgcatgatt 480
tcttgacaga aatcgatcct gatgctgtgg aagtagtttg acccacatcc ctatgagttt 540
ttcttagaat gtataaaggt tgtagcccat cnaacttcaa agaaaaaat gaccacatac 600
tttgcaatca ggctgaaatg tggcatgctn ttctaattcc aactttataa actagcaaan 660
aagtg 665

```

```

<210> 197
<211> 492
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(492)
<223> n = A,T,C or G

```

```

<400> 197
tttntttttt ttttttttgc aggaaggatt ccattttattg tggatgcatt ttcacaatat 60
atgtttattg gagcgatcca ttatcagtga aaagtatcaa gtgtttataa natttttagg 120
aaggcagatt cacagaacat gctngtcngc ttgcagtttt acctcgtana gatnacagag 180
aattatagtc naaccagtaa acnaggaatt tacttttcaa aagattaaat ccaaactgaa 240
caaaattcta ccctgaaact tactccatcc aaatattgga ataanagtca gcagtgatac 300
attctcttct gaactttaga ttttctagaa aaatatgtaa tagtgatcag gaagagctct 360
tgttcaaaag tacaacnaag caatgttccc ttaccatagg ccttaattca aactttgatc 420
catttcactc ccatcacggg agtcaatgct acctgggaca cttgtatttt gttcatnctg 480
ancntggctt aa 492

```

```

<210> 198
<211> 478
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(478)
<223> n = A,T,C or G

```

```

<400> 198
tttnttttgn atttcantct gtannaanta ttttcattat gtttattana aaaatatnaa 60
tgtntccacn acaaatcatn ttacntnagt aagaggccan ctacattgta caacatacac 120
tgagtatatt ttgaaaagga caagttttaa gtanancnat attgccganc atancacatt 180
tatacatggc ttgattgata tttagcacag canaaaactga gtgagttacc agaaanaaat 240
natatatgtc aatcngattt aagatacaaa acagatccta tggtagatan catcntgtag 300
gagttgtggc tttatgttta ctgaaagtca atgcagttcc tgtacaaaga gatggccgta 360
agcattctag tacctctact ccatgggttaa gaatcgtaca cttatgttta catatgtnca 420
gggtaagaat tgtgttaagt naanttatgg agaggtccan gagaaaaatt tgatncaa 478

```

```

<210> 199
<211> 482
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(482)
<223> n = A,T,C or G

```

```

<400> 199
agtgacttgt cctccaacaa aacccttga tcaagtttgt ggcaactgaca atcagaccta 60

```

tgctagttcc	tgtcatctat	tcgctactaa	atgcagactg	gagggggacca	aaaaggggca	120
tcaactccag	ctggattatt	ttggagcctg	caaactctatt	cctacttgta	cggactttga	180
agtgattcag	tttcctctac	ggatgagaga	ctgggtcaag	aatatcctca	tgcagcttta	240
tgaagccnac	tctgaacacg	ctgggttatct	nagatgagaa	ncagagaaat	aaagtcnaga	300
aaatttacct	ggangaaaag	aggctttngg	ctgggggacca	tcccattgaa	ccttctctta	360
anggacttta	agaanaaact	accacatgtn	tgtngtatcc	tgggtgccngg	ccgtttantg	420
aacntngacn	ncacccttnt	ggaatanant	cttgacngcn	tcctgaactt	gctcctctgc	480
ga						482

<210> 200
 <211> 270
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(270)
 <223> n = A,T,C or G

<400> 200	
cgggcgcaag	tgcaactcca
cgactgcgac	gacggcgggc
aaggctgagc	tgacgccgca
cagccggaac	agagcccgtg
ccgagagata	cgcaggtgca
	ggtggccgcc
	60
	120
	180
	240
	270

<210> 201
 <211> 419
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(419)
 <223> n = A,T,C or G

<400> 201	
tttttttttt	ttttggaatc
gctagcaagg	taacagggta
ttgattgggt	tgtctttatg
tggagtgggt	gcaccctccc
tctgtgaccg	tcattttctt
tccactgtnt	ctggagggag
aaaagtggga	tgatncangt
	acngaatacc
	ganggcatan
	ttctcatant
	cggtggcca
	60
	120
	180
	240
	300
	360
	419

<210> 202
 <211> 509
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(509)
 <223> n = A,T,C or G

<400> 202	
tttntttttt	tttttttttt
tggcacttaa	tccattttta
gtnattttnc	aaaatctaaa
tacnncnaaa	aatcaaaaat
aatatatacg	gctgggtggt
ggaactaaaa	taaaaaaa
	cactnccgca
	aaggttaaag
	ggaacaacaa
	attcntttta
	60
	120
	180
	240
	300
	360

caacancnnc	nattataaaa	atcatatctc	aaatcttagg	ggaatatata	cttcacacng	420
ggatcttaac	ttttactnca	ctttgtttat	ttttttanaa	ccattgtntt	gggcccaaca	480
caatggnaat	nccnccnnc	tgactagt				509

<210> 203
 <211> 583
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(583)
 <223> n = A,T,C or G

<400> 203						
tttttttttt	ttttttttga	ccccctctt	ataaaaaaca	agttaccatt	ttattttact	60
tacacatatt	tattttataa	ttggtattag	atattcaaaa	ggcagctttt	aaaatcaaac	120
taaatggaaa	ctgccttaga	tacataattc	ttaggaatta	gcttaaaatc	tgccataaagt	180
gaaaatcttc	tctagctctt	ttgactgtaa	atttttgact	cttgtaaaac	atccaaattc	240
atttttcttg	tctttaaaat	tatctaattc	ttccattttt	tccctattcc	aagtcaattt	300
gcttctctag	cctcatttcc	tagctcttat	ctactattag	taagtggctt	ttttcctaaa	360
agggaaaaca	ggaagagana	atggcacaca	aaacaaacat	tttatattca	tattttctacc	420
tacgttaata	aaatagcatt	ttgtgaagcc	agctcaaaag	aaggcttaga	tccttttatg	480
tccattttag	tcactaaacg	atatcnaaag	tgccagaatg	caaaagggtt	gtgaacattt	540
attcaaaagc	taatataaga	tatttcacat	actcatcttt	ctg		583

<210> 204
 <211> 589
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(589)
 <223> n = A,T,C or G

<400> 204						
ttttttttnt	tttttttttt	tttttttnc	ttcttttttt	ttganaatga	ggatcgagtt	60
tttctctctc	tagatagggc	atgaagaaaa	ctcatctttc	cagcttttaa	ataacaatca	120
aatctcttat	gctatatcat	atttttaagt	aaactaatga	gtcactggct	tatcttctcc	180
tgaaggaaat	ctgttcattc	ttctcattca	tatagttata	tcaagtacta	ccttgcatat	240
tgagagggtt	ttcttctcta	tttacacata	tatttccatg	tgaatttgta	tcaaaccctt	300
attttcatgc	aaactagaaa	ataatgtntt	cttttgcata	agagaagaga	acaatatnag	360
cattacaaaa	ctgctcaaat	tgtttgtaa	gnntatccat	tataattagt	tnggcaggag	420
ctaatacaaa	tcacattttac	ngacnagcaa	taataaaaact	gaagtaccag	ttaaatatcc	480
aaaataatta	aaggaacatt	tttagcctgg	gtataattag	ctaattcact	ttacaagcat	540
ttattnagaa	tgaattcaca	tgttattatt	ccntagccca	acacaatgg		589

<210> 205
 <211> 545
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(545)
 <223> n = A,T,C or G

<400> 205						
tttttntttt	ttttttcagt	aataatcaga	acaatattta	tttttatatt	taaaattcat	60
agaaaagtgc	cttacattta	ataaaagt	gtttctcaaa	gtgatcagag	gaattagata	120
tngtcttgaa	caccaatatt	aatttgagga	aaatacacca	aaatacatta	agtaaattat	180

ttaagatcat	agagcttgta	agtgaaaaga	taaaatttga	cctcagaaac	tctgagcatt	240
aaaaatccac	tatttagcaaa	taaattacta	tggaacttctt	gctttaattt	tgtgatgaat	300
atggggtgtc	actggtaaac	caacacattc	tgaaggatac	attacttagt	gatagattct	360
tatgtacttt	gctanatnac	gtggatatga	gttgacaagt	ttctctttct	tcaatctttt	420
aaggggcnga	ngaaatgagg	aagaaaagaa	aaggattacg	catactgttc	tttctatngg	480
aaggattaga	tatgttttct	ttgccaatat	taaaaaaaata	ataatgttta	ctactagtga	540
aacc						545

<210> 206

<211> 487

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(487)

<223> n = A,T,C or G

<400> 206

tttttttttt	tttttttagtc	aagtttctna	tttttattat	aattaaagtc	ttggtcattt	60
catttattag	ctctgcaact	tacatattta	aattaaagaa	acgttnttag	acaactgtna	120
caatttataa	atgtaagggtg	ccattattga	gtanatata	tcctccaaga	gtggatgtgt	180
cccttctccc	accaactaat	gaancagcaa	cattagttaa	attttattag	tagatnatac	240
actgctgcaa	acgctaattc	tcttctccat	ccccatgtng	atattgtgta	tatgtgtgag	300
ttggtnagaa	tgcatcanca	atctnacaat	caacagcaag	atgaagctag	gcntgggctt	360
tcggtgaaaa	tagactgtgt	ctgtctgaat	caaagtatct	gacctatcct	cgggtggcaag	420
aactcttcga	accgcttcct	caaaggcngc	tgccacattt	gtggcntctn	ttgcacttgt	480
ttcaaaa						487

<210> 207

<211> 332

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(332)

<223> n = A,T,C or G

<400> 207

tgaattggct	aaaagactgc	atttttanaa	ctagcaactc	ttatttcttt	cctttaaaaa	60
tacatagcat	taaatcccaa	atcctattta	aagacctgac	agcttgagaa	ggctactact	120
gcatttatag	gaccttctgg	tggttctgct	gttacntttg	aantctgaca	atccttgana	180
atccttgcac	gcagaggagg	taaaagggtat	tggaatttca	cagaggaana	acacagcgca	240
gaaatgaagg	ggccaggctt	actgagcttg	tccactggag	ggctcatggg	tgggacatgg	300
aaaagaaggc	agcctaggcc	ctggggagcc	ca			332

<210> 208

<211> 524

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(524)

<223> n = A,T,C or G

<400> 208

agggcgtggt	gcggaggcgg	ttactgtttt	gtctcagtaa	caataaatac	aaaaagactg	60
gttgtgttcc	ggcccatcc	aaccacgaag	ttgatttctc	tttgtgtgcag	agtgactgat	120
tttaaaggac	atggagcttg	tcacaatgtc	acaatgtcac	agtggtgaag	gcacactcac	180
tcccgctga	ttcacattta	gcaaccaaca	atagctcatg	agtccatact	tgtaataact	240

tttggcagaa	tacttnttga	aacttgcaga	tgataactaa	gatccaagat	atttcccaaa	300
gtaaatagaa	gtgggtcata	atattaatta	cctgttcaca	tcagcttcca	tttacaagtc	360
atgagcccag	acactgacat	caaactaagc	ccacttagac	tcctcaccac	cagtctgtcc	420
tgatcatcaga	caggaggctg	tcaccttgac	caaattctca	ccagtcaatc	atctatccaa	480
aaaccattac	ctgatccact	tccggtaatg	caccaccttg	gtga		524

<210> 209
 <211> 159
 <212> DNA
 <213> Homo sapien

<400> 209						
gggtgaggaa	atccagagtt	gccatggaga	aaattccagt	gtcagcattc	ttgctccttg	60
tgccctctc	ctacactctg	gccagagata	ccacagtcaa	acctggagcc	aaaaaggaca	120
caaaggactc	tcgacccaaa	ctgcccacga	ccctctcca			159

<210> 210
 <211> 256
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(256)
 <223> n = A,T,C or G

<400> 210						
actccctggc	agacaaaggc	agaggagaga	gctctgtag	ttctgtgttg	ttgaactgcc	60
actgaatttc	tttccacttg	gactattaca	tgccanttga	gggactaatg	gaaaaacgta	120
tggggagatt	ttanccaatt	tangtntgta	aatggggaga	ctggggcagg	cgggagagat	180
ttgcagggtg	naaatgggan	ggctgggttg	ttanatgaac	agggacatag	gaggtaggca	240
ccaggatgct	aatca					256

<210> 211
 <211> 264
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(264)
 <223> n = A,T,C or G

<400> 211						
acattgtttt	tttgagataa	agcattgaga	gagctctcct	taacgtgaca	caatggaagg	60
actggaacac	ataccacat	ctttgttctg	agggataatt	ttctgataaa	gtcttgctgt	120
atattcaagc	acatatgtta	tatattattc	agttccatgt	ttatagccta	gttaaggaga	180
ggggagatac	attcngaaag	aggactgaaa	gaaatactca	agtnggaaaa	cagaaaaaga	240
aaaaaaggag	caaatgagaa	gcct				264

<210> 212
 <211> 328
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(328)
 <223> n = A,T,C or G

<400> 212						
acccaaaaat	ccaatgctga	atatttggt	tcattattcc	canattcttt	gattgtcaaa	60

ggattttaatg	ttgtctcagc	ttgggcactt	cagttaggac	ctaaggatgc	cagccggcag	120
gtttatatat	gcagcaacaa	tattcaagcg	cgacaacagg	ttattgaact	tgcccgccag	180
ttnaatttca	ttcccattga	cttgggatcc	ttatcatcag	ccagagagat	tgaaaattta	240
cccctaacnac	tctttactct	ctgganaggg	ccagtgggtg	tagctataag	cttggccaca	300
tttttttttc	ctttattcct	ttgtcaga				328

<210> 213

<211> 250

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(250)

<223> n = A,T,C or G

<400> 213

acttatgagc	agagcgacat	atccnagtgt	agactgaata	aaactgaatt	ctctccagtt	60
taaagcattg	ctcactgaag	ggatagaagt	gactgccagg	agggaaagta	agccaaggct	120
cattatgcca	aagganatat	acatttcaat	tctccaaact	tcttcctcat	tccaagagtt	180
ttcaatattt	gcatgaacct	gctgataanc	catgttaana	aacaaatata	tctctnacct	240
tctcatcggt						250

<210> 214

<211> 444

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(444)

<223> n = A,T,C or G

<400> 214

acccagaatc	caatgctgaa	tatttggcct	cattattccc	agattctttg	attgtcaaag	60
gatttaagt	tgtctcagct	tgggcacttc	agttaggacc	taaggatgcc	agccggcagg	120
tttatatatg	cagcaacaat	attcaagcgc	gacaacagg	tattgaactt	gcccggcagg	180
tgaatttcat	tcccattgac	ttgggatcct	tatcatcagc	canagagatt	gaaaattttac	240
ccctacgact	ctttactctc	tggagagggc	cagtgggtgt	agctataagc	ttggccacat	300
ttttttttcc	tttattcctt	tgtcagagat	gcgattcatc	catatgctan	aaaccaacag	360
agtgaacttt	acaaaattcc	tataganatt	gtgaataaaa	ccttacctat	agttgccatt	420
actttgtctc	ccctaataata	cctc				444

<210> 215

<211> 366

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(366)

<223> n = A,T,C or G

<400> 215

acttatgagc	agagcgacat	atccaagtgt	anactgaata	aaactgaatt	ctctccagtt	60
taaagcattg	ctcactgaag	ggatagaagt	gactgccagg	agggaaagta	agccaaggct	120
cattatgcca	aagganatat	acatttcaat	tctccaaact	tcttcctcat	tccaagagtt	180
ttcaatattt	gcatgaacct	gctgataagc	catgttgaga	aacaaatata	tctctgacct	240
tctcatcggt	aagcagaggg	tgtaggcaac	atggaccata	gcgaanaaaa	aacttagtaa	300
tccaagctgt	tttctacact	gtaaccagg	ttccaaccaa	ggtggaaatc	tcctatactt	360
ggtgcc						366

<210> 216
 <211> 260
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(260)
 <223> n = A,T,C or G

<400> 216
 ctgtataaac agaactccac tgcangaggg agggccgggc caggagaatc tccgcttgtc 60
 caagacaggg gcctaaggag ggtctccaca ctgctnntaa gggctnttnc atttttttat 120
 taataaaaag tnnaaaaggc ctcttctcaa cttttttccc ttinggctgga aaatttaaaa 180
 atcaaaaatt tcctnaagtt ntcaagctat catatatact ntatcctgaa aaagcaacat 240
 aattcttctt tccctccttt 260

<210> 217
 <211> 262
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(262)
 <223> n = A,T,C or G

<400> 217
 acctacgtgg gtaagtttan aaatgttata atttcaggaa naggaacgca tataattgta 60
 tcttgcttat aattttctat tttaataagg aaatagcaaaa ttgggggtggg gggaatgtag 120
 ggcattctac agtttgagca aaatgcaatt aaatgtggaa ggacagcact gaaaaatttt 180
 atgaataatc tgtatgatta tatgtctcta gagtagattt ataattagcc acttacccta 240
 atatccttca tgcttgtaaa gt 262

<210> 218
 <211> 205
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(205)
 <223> n = A,T,C or G

<400> 218
 accaaggtgg tgcattaccg gaantggatc aangacacca tctgtggccaa cccctgagca 60
 cccctatcaa ctcccttttg tagtaaactt ggaaccttgg aaatgaccag gccaagactc 120
 aggcctcccc agttctactg acctttgtcc ttangntna ngccagggt tgctaggaaa 180
 anaaatcagc agacacaggt gtaaa 205

<210> 219
 <211> 114
 <212> DNA
 <213> Homo sapien

<400> 219
 tactgttttg tctcagtaac aataaatata aaaagactgg ttgtgttccg gccccatcca 60
 accacgaagt tgatttctct tgtgtgcaga gtgactgatt ttaaaggaca tgga 114

<210> 220
 <211> 93
 <212> DNA

<213> Homo sapien

<400> 220

actagccagc acaaaaaggca gggtagcctg aattgctttc tgctctttac atttctttta 60
aaataagcat ttagtgctca gtccctactg agt 93

<210> 221

<211> 167

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(167)

<223> n = A,T,C or G

<400> 221

actangtgca ggtgcgacaca aatatttgct gatattccct tcatcttgga ttccatgagg 60
tcttttgccc agcctgtggc tctactgtag taagtttctg ctgatgagga gccagnatgc 120
ccccactac cttccctgac gctccccana aatcacccaa cctctgt 167

<210> 222

<211> 351

<212> DNA

<213> Homo sapien

<400> 222

agggcggtggt gcggaggggcg gtactgacct cattagtagg aggatgcatt ctggcacccc 60
gttcttcacc tgtcccccaa tctttaaag gccatactgc ataaagtcaa caacagataa 120
atgtttgctg aattaaagga tggatgaaaa aaattaataa tgaatttttg cataatccaa 180
ttttctcttt tatatttcta gaagaagttt ctttgagcct attagatccc gggaatcttt 240
taggtgagca tgattagaga gcttgtaggt tgcttttaca tatactctggc atatttgagt 300
ctcgtatcaa aacaatagat tggtaaagggt ggtattattg tattgataag t 351

<210> 223

<211> 383

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(383)

<223> n = A,T,C or G

<400> 223

aaaacaaaca aacaaaaaaa acaattcttc attcagaaaa attatcttag ggactgatat 60
tggttaattat ggtcaattta atwrtrttkt ggggcatttc cttacattgt cttgacaaga 120
ttaaaatgtc tgtgccaaaa ttttgatttt tatttgagga cttcttatca aaagtaatgc 180
tgccaaagga agtctaagga attagtagtg ttcccmtcac ttgtttggag tgtgctattc 240
taaaagattt tgatttcctg gaatgacaat tatattttta ctttggtggg ggaaanagtt 300
ataggaccac agtcttcact tctgatactt gttaaattaat cttttattgc acttgttttg 360
accattaagc tatatgttta aaa 383

<210> 224

<211> 320

<212> DNA

<213> Homo sapien

<400> 224

cccctgaagg cttcttggtta gaaaatagta cagttacaac caataggaac aacaaaaaga 60
aaaagtttgt gacattgtag tagggagtgt gtacccttta ctcccatca aaaaaaaaaat 120
ggatacatgg ttaaaggata raagggaat attttatcat atgttctaaa agagaaggaa 180

gagaaaatac	tactttctcr	aaatggaagc	ccttaaagggt	gctttgatac	tgaaggacac	240
aaatgtggcc	gtccatcctc	ctttaragtt	gcatgacttg	gacacggtaa	ctgttgacgt	300
tttaractcm	gcattgtgac					320

<210> 225
 <211> 1214
 <212> DNA
 <213> Homo sapien

<400> 225						
gaggactgca	gcccgcactc	gcagccctgg	caggcggcac	tggatcatgga	aaacgaattg	60
ttctgctcgg	gcgtcctggg	gcatccgcag	tgggtgctgt	cagccgcaca	ctgtttccag	120
aactcctaca	ccatcggggt	gggcctgcac	agtcttgagg	ccgaccaaga	gccagggagc	180
cagatgggtg	aggccagcct	ctccgtacgg	cacccagagt	acaacagacc	cttgctcgct	240
aacgacctca	tgctcatcaa	gttggacgaa	tccgtgtccg	agtctgacac	catccggagc	300
atcagcattg	cttcgcagtg	ccctaccgcg	gggaactctt	gcctcgtttc	tggctggggg	360
ctgctggcga	acggcagaat	gcctaccgtg	ctgcagtgcg	tgaacgtgtc	ggtggtgtct	420
gaggaggtct	gcagtaagct	ctatgaccgg	ctgtaccacc	ccagcatgtt	ctgcgccggc	480
ggagggcaag	accagaagga	ctcctgcaac	ggtgactctg	gggggcccct	gatctgcaac	540
gggtacttgc	agggccttgt	gtctttcgga	aaagccccgt	gtggccaagt	tggcgtgcca	600
ggtgtctaca	ccaacctctg	caaattcact	gagtggatag	agaaaaccgt	ccaggccagt	660
taactctggg	gactgggaac	ccatgaaatt	gacccccaaa	tacatcctgc	ggaaggaatt	720
caggaatatc	tggtcccagc	ccctcctccc	tcaggcccag	gagtccaggc	ccccagcccc	780
tcctccctca	aaccaagggt	acagatcccc	agccccctct	ccctcagacc	caggagtcca	840
gacccccagc	ccccctctcc	ctcagaccca	ggagtccagc	ccctcctccc	tcagaccagc	900
gagtccagac	ccccagcccc	ctcctccctc	agaccagggg	gtccaggccc	ccaacccctc	960
ctccctcaga	ctcagagggt	caagccccca	acccctcctt	ccccagcccc	agagggtccag	1020
gtcccagccc	ctcctccctc	agaccagcgc	gtccaatgcc	acctagactc	tccctgtaca	1080
cagtgcctccc	ttgtggcacg	ttgacccaac	cttaccagtt	ggtttttcat	tttttgtccc	1140
tttcccctag	atccagaaat	aaagtctaag	agaagcgcaa	aaaaaaaaaa	aaaaaaaaaa	1200
aaaaaaaaaa	aaaa					1214

<210> 226
 <211> 119
 <212> DNA
 <213> Homo sapien

<400> 226						
accagtatg	tgcagggaga	cggaacccca	tgtgacagcc	cactccacca	gggttcccaa	60
agaacctggc	ccagtcataa	tcattcatcc	tgacagtggc	aataatcacg	ataaccagt	119

<210> 227
 <211> 818
 <212> DNA
 <213> Homo sapien

<400> 227						
acaattcata	gggacgacca	atgaggacag	ggaatgaacc	cggctctccc	ccagccctga	60
tttttgctac	atatgggggc	ccttttcatt	ctttgcaaaa	acactggggt	ttctgagaac	120
acggacgggt	cttagcacaa	tttgtgaaat	ctgtgtaraa	ccgggctttg	caggggagat	180
aattttcctc	ctctggagga	aaggtggtga	ttgacaggca	gggagacagt	gacaaggcta	240
gagaaaagcca	cgctcggcct	tctctgaacc	aggatggaac	ggcagacccc	tgaaaacgaa	300
gcttgtcccc	ttccaatcag	ccacttctga	gaacccccat	ctaacttctc	actggaaaag	360
agggcctcct	caggagcagt	ccaagagttt	tcaaagataa	cgtgacaact	accatctaga	420
ggaaagggtg	caccctcagc	agagaagccg	agagcttaac	tctggtcggt	tccagagaca	480
acctgctggc	tgtcttgagg	tgcgccagc	ctttgagagg	ccactacccc	atgaacttct	540
gcatccact	ggacatgaag	ctgaggacac	tgggcttcaa	cactgagttg	tcatgagagg	600
gacaggtctc	gccctcaagc	cggctgaggg	cagcaaccac	tctcctcccc	tttctcacgc	660
aaagccattc	ccacaaatcc	agaccatacc	atgaagcaac	gagacccaaa	cagtttggtg	720
caagaggata	tgaggactgt	ctcagcctgg	ctttgggctg	acaccatgca	cacacacaag	780
gtccacttct	aggttttcag	cctagatggg	agtcgtgt			818

<210> 228
 <211> 744
 <212> DNA
 <213> Homo sapien

<400> 228
 actggagaca ctgttgaact tgatcaagac ccagaccacc ccaggtctcc ttcgtgggat 60
 gtcattgacgt ttgacatacc tttggaacga gcctcctcct tggaagatgg aagaccgtgt 120
 tcgtggccga cctggcctct cctggcctgt ttcttaagat gcggagtcac atttcaatgg 180
 taggaaaagt ggcttcgtaa aatagaagag cagtcactgt ggaactacca aatggcgaga 240
 tgctcgggtgc acattgggtt gctttgggat aaaagattta tgagccaact attctctggc 300
 accagattct aggccagttt gttccactga agcttttccc acagcagtcc acctctgcag 360
 gctggcagct gaattggcttg ccggtggctc tgtggcaaga tcacactgag atcgatgggt 420
 gagaaggcta ggatgcttgt ctagtgttct tagctgtcac gttggctcct tccaggttgg 480
 ccagacggtg ttggccactc ccttctaaaa cacaggcgcc ctctggtga cagtgacctg 540
 ccgtggtatg ccttggccca ttccagcagt cccagttatg catttcaagt ttggggtttg 600
 ttcttttctg taatgttctt ctgtgttgtc agctgtcttc atttcctggg ctaagcagca 660
 ttgggagatg tggaccagag atccactcct taagaaccag tggcgaaaga cactttcttt 720
 cttcactctg aagtagctgg tgggt 744

<210> 229
 <211> 300
 <212> DNA
 <213> Homo sapien

<400> 229
 cgagtctggg ttttgtctat aaagtttgat ccctcctttt ctcattccaaa tcatgtgaac 60
 cattacacat cgaaataaaa gaaaggtggc agacttgccc aacgccaggc tgacatgtgc 120
 tgcaggggtg ttgtttttta attattattg tttagaacgt caccacagat cctgttaat 180
 ttgtatgtga cagccaactc tgagaaggtc ctatttttcc acctgcagag gatccagtct 240
 cactaggctc ctcttgccc tcacactgga gtctccgcca gtgtgggtgc ccactgacat 300

<210> 230
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 230
 cagcagaaca aatacaata tgaagagtgc aaagatctca taaaatctat gctgaggaat 60
 gagcgacagt tcaaggagga gaagcttgca gagcagctca agcaagctga ggagctcagg 120
 caatataaag tcctggttca cactcaggaa cgagagctga cccagttaag ggagaagttg 180
 cgggaaggga gagatgcctc cctctcattg aatgagcatc tccaggccct cctcactccg 240
 gatgaaccgg acaagtccca ggggcaggac ctccaagaaa cagacctcgg ccgcgaccac 300
 g 301

<210> 231
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 231
 gcaagcacgc tggcaaatct ctgtcaggtc agctccagag aagccattag tcatttttagc 60
 caggaactcc aagtccacat ccttggcaac tggggacttg cgcagggttag ccttgaggat 120
 ggcaacacgg gacttctcat caggaagtgg gatgtagatg agctgatcaa gacggccagg 180
 tctgaggatg gcaggatcaa tgatgtcagg ccggttggtg ccgccaatga tgaacacatt 240
 tttttttgtg gacatgccat ccatttctgt caggatctgg ttgatgactc ggtcagcagc 300
 c 301

<210> 232
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 232
 agtaggtatt tcgtgagaag ttcaacacca aaactggaac atagttctcc ttcaagtgtt 60
 ggcgacagcg gggcttcctg attctggaat ataactttgt gttaaattaac agccacctat 120
 agaagagtcc atctgctgtg aaggagagac agagaactct gggttccgtc gtcctgtcca 180
 cgtgctgtac caagtgtgtg tgccagcctg ttacctgttc tactgaaaa tctggctaata 240
 gctcttgtgt atcacttctg attctgacaa tcaatcaatc aatggcctag agcactgact 300
 g 301

<210> 233
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 233
 atgactgact tcccagtaag gctctctaag gggtaagtag gaggatccac aggatttgag 60
 atgctaaggc cccagagatc gtttgatcca accctcttat ttccagaggg gaaaatgggg 120
 cctagaagtt acagagcatc tagctgggtg gctggcacc cttggcctcac acagactccc 180
 gagtagctgg gactacaggc acacagtcac tgaagcaggc cctgttagca attctatgcg 240
 tacaaattaa catgagatga gtagagactt tattgagaaa gcaagagaaa atcctatcaa 300
 c 301

<210> 234
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 234
 aggtcctaca catcgagact catccatgat tgatatgaat ttaaaaatta caagcaaaga 60
 cattttattc atcatgatgc tttcttttgt ttcttctttt cgttttcttc tttttctttt 120
 tcaatttcag caacatactt ctcaatttct tcaggattta aaatcttgag ggattgatct 180
 cgcctcatga cagcaagttc aatgtttttg ccacctgact gaaccacttc caggagtggc 240
 ttgatcacca gcttaatggg cagatcatct gcttcaatgg ctctcgtcagt atagttcttc 300
 t 301

<210> 235
 <211> 283
 <212> DNA
 <213> Homo sapien

<400> 235
 tggggctgtg catcaggcgg gtttgagaaa tattcaattc tcagcagaag ccagaatttg 60
 aattccctca tcttttaggg aatcatttac caggtttgga gaggattcag acagctcagg 120
 tgctttcact aatgtctctg aacttctgtc cctctttgtt catggatagt ccaataaata 180
 atgttatctt tgaactgatg ctcataggag agaataaag aactctgagt gatatcaaca 240
 ttagggattc aaagaaatat tagatttaag ctcacactgg tca 283

<210> 236
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 236
 aggtcctcca ccaactgcct gaagcacggg taaaattggg aagaagtata gtgcagcata 60
 aatactttta aatcgatcag atttccctaa cccacatgca atcttcttca ccagaagagg 120
 tcggagcagc atcattaata ccaagcagaa tgcgtaatag ataaatacaa tggatatatg 180
 tgggtagacg gcttcatgag tacagtgtac tgtggtatcg taatctggac ttgggttgta 240
 aagcatcgtg taccagtcag aaagcatcaa tactcgacat gaacgaatat aaagaacacc 300
 a 301

<210> 237
 <211> 301

<212> DNA

<213> Homo sapien

<400> 237

cagtggtagt	ggtgggtggac	gtggcggttg	tcgtgggtgcc	ttttttggtg	cccgtcacaa	60
actcaatttt	tggtcgctcc	tttttgacct	tttccaattt	gtccatctca	attttctggg	120
ccttggtctaa	tgcctcatag	taggagtcct	cagaccagcc	atggggatca	aacatatacct	180
ttgggtagtt	ggtgcccaagc	tcgtcaatgg	cacagaatgg	atcagcttct	cgtaaatcta	240
gggttccgaa	attctttctt	cctttggata	atgtagttca	tatccattcc	ctcctttatc	300
t						301

<210> 238

<211> 301

<212> DNA

<213> Homo sapien

<400> 238

gggcagggttt	tttttttttt	ttttttgatg	gtgcagaccc	ttgctttatt	tgtctgactt	60
gttcacagtt	cagccccctg	ctcagaaaaac	caacggggcca	gctaaggaga	ggaggaggca	120
ccttgagact	tccggagtcg	aggctctcca	gggttcccca	gcccataaat	cattttctgc	180
acccccctgcc	tgggaagcag	ctccctgggg	ggtgggaatg	ggtgactaga	agggatttca	240
gtgtgggacc	cagggtctgt	tcttcacagt	aggaggtgga	agggatgact	aatttcttta	300
t						301

<210> 239

<211> 239

<212> DNA

<213> Homo sapien

<400> 239

ataagcagct	aggggaattct	ttatttagta	atgtcctaac	ataaaagtgc	acataactgc	60
ttctgtcaaa	ccatgatact	gagctttgtg	acaaccacga	aataactaag	agaaggcaaa	120
cataatacct	tagagatcaa	gaaacattta	cacagttcaa	ctgtttaaaa	atagctcaac	180
attcagccag	tgagtagagt	gtgaatgcca	gcatacacag	tatacaggtc	cttcaggga	239

<210> 240

<211> 300

<212> DNA

<213> Homo sapien

<400> 240

ggtcctaagt	aagcagcagc	ttccacattt	taacgcaggt	ttacgggtgat	actgtccttt	60
gggatctggc	ctccagtggg	accttttaag	gaagaagtgg	gcccaagcta	agttccacat	120
gctgggtgag	ccagatgact	tctgttccct	ggtcactttc	ttcaatgggg	cgaatggggg	180
ctgccagggt	tttaaaatca	tgcttcatct	tgaagcacac	ggtcacttca	ccctcctcac	240
gctgtgggtg	tactttgatg	aaaataacca	ccttggtggc	ctttctgaag	ctataatgtc	300

<210> 241

<211> 301

<212> DNA

<213> Homo sapien

<400> 241

gaggtctggt	gctgaggtct	ctgggctagg	aagaggagtt	ctgtggagct	ggaagccaga	60
cctcttttga	ggaaactcca	gcagctatgt	tggtgtctct	gagggaatgc	aacaaggctg	120
ctcctccatg	tattggaaaa	ctgcaaaactg	gactcaactg	gaagggaagtg	ctgctgccag	180
tgtgaagaac	cagcctgagg	tgacagaaac	ggaagcaaac	aggaacagcc	agtcttttct	240
tcctcctcct	gtcatacggt	ctctctcaag	catcctttgt	tgtcaggggc	ctaaaaggga	300
g						301

<210> 242

<211> 301

<212> DNA
<213> Homo sapien

<400> 242
ccgaggctcct gggatgcaac caatcactct gtttcacgtg acttttatca ccatacaatt 60
tgtggcattt cctcattttc tacattgtag aatcaagagt gtaaataaat gtatatcgat 120
gtcttcaaga atatatcatt cctttttcac tagaaccat tcaaaatata agtcaagaat 180
cttaatatca acaaatatat caagcaaaact ggaaggcaga ataactacca taatttagta 240
taagtaccca aagttttata aatcaaaaagc cctaattgata accattttta gaattcaatc 300
a 301

<210> 243
<211> 301
<212> DNA
<213> Homo sapien

<400> 243
aggtaagtcc cagtttgaag ctcaaaagat ctggtatgag cataggctca tcgacgacat 60
ggtggcccaa gctatgaaat cagagggagg cttcatctgg gcctgtaaaa actatgatgg 120
tgacgtgcag tcggactctg tggcccaagg gtatggctct ctcggcatga tgaccagcgt 180
gctggtttgt ccagatggca agacagtaga agcagaggct gccacggga ctgtaaccgg 240
tcactaccgc atgttccaga aaggacagga gacgtccacc aatcccattg cttccatttt 300
t 301

<210> 244
<211> 300
<212> DNA
<213> Homo sapien

<400> 244
gctggtttgc aagaatgaaa tgaatgattc tacagctagg acttaacctt gaaatggaaa 60
gtcatgcaat cccatttgca ggatctgtct gtgcacatgc ctctgtagag agcagcattc 120
ccagggaacct tggaaacagt tgacactgta aggtgcttgc tccccaagac acatcctaaa 180
aggtgttgtg atggtgaaaa cgtcttcctt ctttattgcc ctttcttatt tatgtgaaca 240
actgtttgtc ttttgtgtat cttttttaaa ctgtaaagtt caattgtgaa aatgaatata 300

<210> 245
<211> 301
<212> DNA
<213> Homo sapien

<400> 245
gtctgagtat ttaaaatggt attgaaatta tccccaacca atggttagaaa agaaagaggt 60
tatatactta gataaaaaat gaggtgaatt actatccatt gaaatcatgc tcttagaatt 120
aaggccagga gatattgtca ttaatgtara cttcaggaca cttagagtata gcagccctat 180
gttttcaaag agcagagatg caattaaata ttgttttagca tcaaaaaggc cactcaatac 240
agctaataaa atgaaaagacc taattttctaa agcaattctt tataatttac aaagttttaa 300
g 301

<210> 246
<211> 301
<212> DNA
<213> Homo sapien

<400> 246
ggtctgtcct acaatgcctg cttcttgaaa gaagtcggca ctttctagaa tagctaaata 60
acctgggctt attttaaaga actatttgta gctcagattg gttttcctat ggctaaaata 120
agtgttctt gtgaaaatta aataaaacag ttaattcaaa gccttgatat atgttaccac 180
taacaatcat actaaatata ttttgaagta caaagtttga catgctctaa agtgacaacc 240
caaagtgtgc ttacaaaaca cgttcctaac aagggtatgct ttacactacc aatgcagaaa 300
c 301

<210> 247
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 247
 aggtcctttg gcagggctca tggatcagag ctcaaactgg agggaaaggc atttcgggta 60
 gcctaagagg gcgactggcg gcagcacaac caaggaaggc aagggtgttt cccccacgct 120
 gtgtcctgtg ttcagggtcg acacacaatc ctcatgggaa caggatcacc catgcgctgc 180
 ccttgatgat caagggttggg gcttaagtgg attaaggagg gcaagttctg ggttccttgc 240
 cttttcaaac catgaagtca ggctctgtat ccctcctttt cctaactgat attctaacta 300
 a 301

<210> 248
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 248
 aggtccttgg agatgccatt tcagccgaag gactcttctw ttcggaagta caccctcact 60
 attaggaaga ttcttagggg taatttttct gaggaaggag aactagccaa cttaagaatt 120
 acaggaagaa agtggtttgg aagacagcca aagaaataaa agcagattaa attgtatcag 180
 gtacattcca gcctgttggc aactccataa aaacatttca gattttaatc ccgaatttag 240
 ctaatgagac tggatttttg ttttttatgt tgtgtgtcgc agagctaaaa actcagttcc 300
 c 301

<210> 249
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 249
 gtccagagga agcacctggt gctgaactag gcttgccctg ctgtgaactt gcacttgagg 60
 ccctgacgct gctgttctcc ccgaaaaaacc cgaccgacct ccgcgatctc cgtcccgccc 120
 ccaggagagc acagcagtga ctcagagctg gtgcgacact gtgcctccct cctcaccgcc 180
 catcgtaatg aattattttg aaaattaatt ccaccatcct ttcagattct ggatggaaag 240
 actgaatctt tgactcagaa ttgtttgctg aaaagaatga tgtgactttc ttagtcattt 300
 a 301

<210> 250
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 250
 ggtctgtgac aaggacttgc aggctgtggg aggcaagtga cccttaacac tacacttctc 60
 cttatcttta ttggcttgat aaacataatt atttctaaca ctactttatt tccagttgcc 120
 cataagcaca tcagtacttt tctctggctg gaatagtaaa ctaaaagtatg gtacatctac 180
 ctaaaagact actatgtgga ataatacata ctaatgaagt attacatgat ttaaagacta 240
 caataaaaacc aaacatgctt ataacattaa gaaaaacaat aaagatacat gattgaaacc 300
 a 301

<210> 251
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 251
 gccgaggtcc tacatttggc ccagtttccc cctgcacact ctccagggcc cctgcctcat 60
 agacaacctc atagagcata ggagaactgg ttgccctggg ggcaggggga ctgtctggat 120
 ggcaggggtc ctcaaaaatg ccactgtcac tgccaggaaa tgcttctgag cagtacacct 180
 cattgggatac aatgaaaagc ttcaagaaat cttcaggctc actctcttga aggcccgga 240

cctctggagg ggggcagtgg aatcccagct ccaggacgga tcctgtcgaa aagatatacct 300
c 301

<210> 252
<211> 301
<212> DNA
<213> Homo sapien

<400> 252
gcaaccaatc actctgtttc acgtgacttt tatcaccata caatttgtgg catttcctca 60
ttttctacat tgtagaatca agagtgtaaa taaatgtata tcgatgtctt caagaatata 120
tcatttccttt ttacttagga acccattcaa aatataagtc aagaatctta atatcaacaa 180
atatatcaag caaactggaa ggcagaataa ctaccataat ttagtataag tacccaaagt 240
tttataaatc aaaagcccta atgataacca tttttagaat tcaatcatca ctgtagaatc 300
a 301

<210> 253
<211> 301
<212> DNA
<213> Homo sapien

<400> 253
ttccctaaga agatgttatt ttgttgggtt ttgttcccc tccatctcga ttctcgtacc 60
caactaaaaa aaaaaataa agaaaaaatg tgctgcgttc tgaaaaataa ctcccttagct 120
tggtctgatt gttttcagac cttaaaatat aaacttggtt cacaagcttt aatccatgtg 180
gatttttttt cttagagaac cacaaaaacat aaaaggagca agtcggactg aatacctgtt 240
tccatagtgc ccacagggtta ttctcacat tttctccata ggaaaatgct ttttcccaag 300
g 301

<210> 254
<211> 301
<212> DNA
<213> Homo sapien

<400> 254
cgctgcgcct ttcccttggg ggagggggcaa ggccagaggg ggtccaagtg cagcacgagg 60
aacttgacca attcccttga agcgggtggg ttaaaccctg taaatgggaa caaaatcccc 120
ccaaatctct tcactttacc ctggtggact cctgactgta gaatttttg gttgaaacaa 180
gaaaaaaata aagcttttga cttttcaagg ttgcttaaca ggtactgaaa gactggcctc 240
acttaaactg agccaggaaa agctgcagat ttattaatgg gtgtgttagt gtgcagtgcc 300
t 301

<210> 255
<211> 302
<212> DNA
<213> Homo sapien

<400> 255
agcttttttt tttttttttt tttttttttt ttcattaaaa aatagtgtct tttattataa 60
attactgaaa tgtttctttt ctgaatataa atataaatat gtgcaaagt ttgacttgat 120
tgggattttt ttgagttctt caagcatctc ctaataccct caagggcctg agtagggggg 180
aggaaaaagg actggagggt gaatctttat aaaaaacaag agtgattgag gcagattgta 240
aacattatta aaaaacaaga aacaaacaaa aaaatagaga aaaaaaccac cccaacacac 300
aa 302

<210> 256
<211> 301
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature

<222> (1)...(301)

<223> n = A,T,C or G

<400> 256

gttccagaaa	acattgaagg	tggcttccca	aagtctaact	agggataccc	cctctagcct	60
aggaccctcc	tccccacacc	tcaatccacc	aaaccatcca	taatgcaccc	agataggccc	120
acccccaaaa	gcctggacac	cttgagcaca	cagttatgac	caggacagac	tcattctctat	180
aggcaaatag	ctgctggcaa	actggcatta	cctggtttgt	ggggatgggg	gggcaagtgt	240
gtggcctctc	ggcctgggta	gcaagaacat	tcagggtagg	cctaagttan	tcgtgttagt	300
t						301

<210> 257

<211> 301

<212> DNA

<213> Homo sapien

<400> 257

gttgtggagg	aactctggct	tgctcattaa	gtcctactga	ttttcactat	cccctgaatt	60
tccccactta	tttttgtctt	tcactatcgc	aggccttaga	agaggtctac	ctgcctccag	120
tcttacctag	tccagtctac	cccctggagt	tagaatggcc	atcctgaagt	gaaaagtaat	180
gtcacattac	tcccttcagt	gatttcttgt	agaagtgcc	atccctgaat	gccaccaaga	240
tcttaattct	cacatcttta	atcttatctc	tttgactcct	ctttacaccg	gagaaggctc	300
c						301

<210> 258

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(301)

<223> n = A,T,C or G

<400> 258

cagcagtagt	agatgccgta	tgccagcacg	cccagcactc	ccaggatcag	caccagcacc	60
agggggcccag	ccaccaggcg	cagaagcaag	ataaacagta	ggctcaagac	cagagccacc	120
cccagggcaa	caagaatcca	ataccaggac	tgggcaaaat	cttcaaagat	cttaacactg	180
atgtctcggg	cattgaggct	gtcaataana	cgctgatccc	ctgctgtatg	gtggtgtcat	240
tggtgatccc	tgggagcgcc	ggtggagtaa	cgttggtcca	tggaaagcag	cgcccacaac	300
t						301

<210> 259

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(301)

<223> n = A,T,C or G

<400> 259

tcatatatgc	aaacaaatgc	agactangcc	tcaggcagag	actaaaggac	atctcttggg	60
gtgtcctgaa	gtgatttgga	cccctgaggg	cagacaccta	agtaggaatc	ccagtgggaa	120
gcaaagccat	aaggaagccc	aggattcctt	gtgatcagga	agtgggccag	gaaggtctgt	180
tccagctcac	atctcatctg	catgcagcac	ggaccggatg	cgcccactgg	gtcttggcctt	240
ccctcccatc	ttctcaagca	gtgtccttgt	tgagccattt	gcataccttg	ctccaggtgg	300
c						301

<210> 260

<211> 301

<212> DNA
<213> Homo sapien

<400> 260
 ttttttttct ccctaaggaa aaagaaggaa caagtctcat aaaaccaa at aagcaatggt 60
 aaggtgtctt aacttgaaaa agattaggag tcaactggtt acaagttata attgaatgaa 120
 agaactgtaa cagccacagt tggccatttc atgccaatgg cagcaaaca caggattaac 180
 tagggcaaaa taaataagtg tgtggaagcc ctgataagt cttataaac agactgattc 240
 actgagacat cagtacctgc ccgggcggcc gctcgagccg aattctgcag atatccatca 300
 c 301

<210> 261
<211> 301
<212> DNA
<213> Homo sapien

<400> 261
 aaatattoga gcaaatacctg taactaatgt gtctccataa aaggctttga actcagtga 60
 tctgcttcca tccacgattc tagcaatgac ctctcggaca tcaaagctcc tcttaagggt 120
 agcaccaact attccatata attcatcagc aggaaataaa ggctcttcag aaggttcaat 180
 ggtgacatcc aattttcttct gataatttag attcctcaca accttcctag ttaagtgaag 240
 ggcatgatga tcatccaaag ccagtggtc acttactcca gactttctgc aatgaagatc 300
 a 301

<210> 262
<211> 301
<212> DNA
<213> Homo sapien

<400> 262
 gaggagagcc tgttacagca tttgtaagca cagaatactc caggagtatt tgtaattgtc 60
 tgtgagcttc ttgccgcaag tctctcagaa atttaaaaag atgcaaatacc ctgagtcacc 120
 cctagacttc ctaaaccaga tctcttgggg ctggaacctg gcactctgca tttgtaatga 180
 gggctttctg gtgcacacct aattttgtgc atctttgccc taaatcctgg attagtgtcc 240
 catcattacc cccacattat aatgggatag attcagagca gatactctcc agcaaagaat 300
 c 301

<210> 263
<211> 301
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(301)
<223> n = A,T,C or G

<400> 263
 tttagcttgt ggtaaatgac tcacaaaact gattttaaaa tcaagttaat gtgaattttg 60
 aaaattacta cttaatccta attcacaata acaatggcat taagggttga cttgagttgg 120
 ttcttagtat tatttatggg aaataggctc ttaccacttg caaataactg gccacatcat 180
 taatgactga cttcccagta aggctctcta aggggtaagt angaggatcc acaggatttg 240
 agatgctaag gccccagaga tcgtttgatc caaccctctt attttcagag gggaaaatgg 300
 g 301

<210> 264
<211> 301
<212> DNA
<213> Homo sapien

<400> 264
 aaagacgtta aaccactcta ctaccacttg tggaactctc aaagggtaaa tgacaaascc 60

aatgaatgac	tctaaaaaca	atattttacat	ttaatgggttt	gtagacaata	aaaaaacaag	120
gtggatagat	ctagaattgt	aacattttta	gaaaaccata	scatttgaca	gatgagaaag	180
ctcaattata	gatgcaaagt	tataactaaa	ctactatagt	agtaaagaaa	tacatttcac	240
acccttcata	taaattcact	atcttggctt	gaggcactcc	ataaaatgta	tcacgtgcat	300
a						301

<210> 265

<211> 301

<212> DNA

<213> Homo sapien

<400> 265

tgcccaagtt	atgtgtaagt	gtatccgcac	ccagaggtaa	aactacactg	tcattcttgt	60
cttcttgtga	cgcagtattt	cttctctggg	gagaagccgg	gaagtcttct	cctggctcta	120
catattcttg	gaagtctcta	atcaactttt	gttccatttg	tttcatttct	tcaggaggga	180
ttttcagttt	gtcaacatgt	tctctaacia	cacttgccca	tttctgtaaa	gaatccaaag	240
cagtccaagg	ctttgacatg	tcaacaacca	gcataactag	agtatccttc	agagatacgg	300
c						301

<210> 266

<211> 301

<212> DNA

<213> Homo sapien

<400> 266

taccgtctgc	ccttcctccc	atccaggcca	tctgcgaatc	tacatgggtc	ctcctattcg	60
acaccagatc	actctttcct	ctaccacacag	gcttgctatg	agcaagagac	acaacctcct	120
ctcttctgtg	ttccagcttc	ttttcctgtt	cttcccaccc	cttaagttct	attcctgggg	180
atagagacac	caatacccat	aacctctctc	ctaagcctcc	ttataacca	gggtgcacag	240
cacagactcc	tgacaactgg	taaggccaat	gaactgggag	ctcacagctg	gctgtgcctg	300
a						301

<210> 267

<211> 301

<212> DNA

<213> Homo sapien

<400> 267

aaagagcaca	ggccagctca	gcctgccctg	gccatctaga	ctcagcctgg	ctccatgggg	60
gttctcagtg	ctgagtccat	ccaggaaaag	ctcacctaga	ccttctgagg	ctgaatcttc	120
atcctcacag	gcagcttctg	agagcctgat	attcctagcc	ttgatgggtc	ggagtaaagc	180
ctcattctga	ttcctctcct	tcttttcttt	caagttggct	ttcctcacat	ccctctgttc	240
aattcgcttc	agcttgtctg	ctttagccct	catttcacaga	agcttcttct	ctttggcatc	300
t						301

<210> 268

<211> 301

<212> DNA

<213> Homo sapien

<400> 268

aatgtctcac	tcaactactt	cccagcctac	cgtggcctaa	ttctgggagt	tttcttctta	60
gatcttggga	gagctgggtc	ttctaaggag	aaggaggaag	gacagatgta	actttggatc	120
tcgaagagga	agtctaattg	aagtaattag	tcaacgggtc	ttgtttagac	tcttgggaata	180
tgctgggtgg	ctcagtgagc	ccttttgagg	aaagcaagta	ttattcttaa	ggagtaacca	240
cttcccattg	ttctactttc	taccatcatc	aattgtatat	tatgtattct	ttggagaact	300
a						301

<210> 269

<211> 301

<212> DNA

<213> Homo sapien

<400> 269
 taacaatata cactagctat ctttttaact gtccatcatt agcaccaatg aagattcaat 60
 aaaattacct ttattcacac atctcaaaac aattctgcaa attcttagtg aagtttaact 120
 atagtcacag accttaaata ttcacattgt tttctatgtc tactgaaaat aagttcacta 180
 cttttctgga tattctttac aaaatcttat taaaattcct ggtattatca cccccaatta 240
 tacagtagca caaccacctt atgtagtttt tacatgatag ctctgtagaa gtttcacatc 300
 t 301

<210> 270
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 270
 cattgaagag cttttgcgaa acatcagaac acaagtgcct ataaaattaa ttaagcctta 60
 cacaagaata catattcctt ttattttctaa ggagttaaac atagatgtag ctgatgtgga 120
 gagcttgctg gtgcagtgc tattggataa cactattcat ggccgaattg atcaagtcaa 180
 ccaactcctt gaactggatc atcagaagaa ggggtggtgca cgatatactg cactagataa 240
 tggaccaacc aactaaattc tctcaccagg ctgtatcagt aaactggctt aacagaaaac 300
 a 301

<210> 271
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 271
 aaaaggttct cataagatta acaatttaaa taaatatttg atagaacatt ctttctcatt 60
 tttatagctc atcttttaggg ttgatattca gttcatgcct cccttgctgt tcttgatcca 120
 gaattgcaat cacttcatca gcctgtattc gctccaattc tctataaagt ggggtccaagg 180
 tgaaccacag agccacagca cacctctttc ccttggtgac tgccttcacc ccatganggt 240
 tctctcctcc agatganaac tgatcatgcy cccacatttt gggttttata gaagcagtca 300
 c 301

<210> 272
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 272
 taaattgcta agccacagat aacaccaatc aaatggaaca aatcactgtc ttcaaattgtc 60
 ttatcagaaa accaaatgag cctggaatct tcataatacc taaacatgcc gtatttagga 120
 tccaataatt ccctcatgat gagcaagaaa aattctttgc gcacccctcc tgcattccaca 180
 gcatcttctc caacaaatat aaccttgagt ggcttctgt aatctatgtt ctttgttttc 240
 ctaaggactt ccattgcatc tcctacaata ttttctctac gcaccactag aattaagcag 300
 g 301

<210> 273
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 273

acatgtgtgt	atgtgtatct	ttgggaaaaan	aanaagacat	cttgtttayt	atTTTTTTTgg	60
agagangctg	ggacatggat	aatcacwtaa	tttgctayta	tyactttaat	ctgactygaa	120
gaaccgtcta	aaaataaaaat	ttaccatgtc	dtatatccct	tatagtatgc	ttatttcacc	180
ttytttctgt	ccagagagag	tatcagtgac	ananatttma	gggtgaamac	atgmattggt	240
gggacttnty	tttacngagm	accctgcccc	sgcgccctcg	makcngantt	ccgcsananc	300
t						301

<210> 274

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(301)

<223> n = A,T,C or G

<400> 274

cttatatact	ctttctcaga	ggcaaaagag	gagatgggta	atgtagacaa	ttctttgagg	60
aacagtaaat	gattattaga	gagaangaat	ggaccaagga	gacagaaatt	aacttgtaaa	120
tgattctctt	tggaatctga	atgagatcaa	gaggccagct	ttagcttggtg	gaaaagtcca	180
tctaggtatg	gttgcatctt	cgtcttcttt	tctgcagtag	ataatgaggt	aaccgaaggc	240
aattgtgctt	cttttgataa	gaagctttct	tggtcatatc	aggaaattcc	aganaaagtc	300
c						301

<210> 275

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(301)

<223> n = A,T,C or G

<400> 275

tcggtgtcag	cagcacgtgg	cattgaacat	tgcaatgtgg	agcccaaacc	acagaaaatg	60
gggtgaaatt	ggccaacttt	ctattaactt	atgttggcaa	ttttgccacc	aacagtaagc	120
tggtcccttct	aataaaaagaa	aattgaaaag	tttctcacta	aacggaatta	agtagtgagg	180
tcaagagact	cccaggcctc	agcgtacctg	cccggggcgc	cgctcgaagc	cgaattctgc	240
agatatccat	cacactggcg	gncgctcgan	catgcatcta	gaaggnccaa	ttcgccctat	300
a						301

<210> 276

<211> 301

<212> DNA

<213> Homo sapien

<400> 276

tgtacacata	ctcaataaat	aaatgactgc	attgtgggtat	tattactata	ctgattatat	60
ttatcatgtg	acttctaatt	agaaaatgta	tccaaaagca	aaacagcaga	tatacaaaat	120
taaagagaca	gaagatagac	attaacagat	aaggcaactt	atacattgag	aatccaaatc	180
caatacatTT	aaacatttgg	gaaatgaggg	ggacaaatgg	aagccagatc	aaatttTgtg	240
aaaactattc	agtatgtttc	ccttgcttca	tgtctgagaa	ggctctcctt	caatggggat	300
g						301

<210> 277

<211> 301

<212> DNA

<213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 277
 tttgttgatg tcagtatttt attacttgcg ttatgagtgc tcacctggga aattctaaag 60
 atacagagga cttggaggaa gcagagcaac tgaatttaaat ttaaaagaag gaaaacattg 120
 gaatcatggc actcctgata ctttcccaaa tcaacactct caatgccccca ccctcgctct 180
 caccatagtg gggagactaa agtggccacg gatttgccctt anggtgtgcag tgcgttctga 240
 gttcncctgtc gattacatct gaccagtctc ctttttccga agtccttccg ttcaatcttg 300
 c 301

<210> 278
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 278
 taccactaca ctccagcctg ggcaacagag caagacctgt ctcaaagcat aaaatggaat 60
 aacatatcaa atgaaacagg gaaaatgaag ctgacaattt atggaagcca gggcttgtca 120
 cagtctctac tggtattatg cattacctgg gaatttatat aagcccttaa taataatgcc 180
 aatgaacatc tcatgtgtgc tcacaatggt ctggcactat tataagtgtc tcacaggttt 240
 tatgtgttct tcgtaacttt atggantagg tactcggccg cgaacacgct aagccgaatt 300
 c 301

<210> 279
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 279
 aaagcaggaa tgacaaagct tgcttttctg gtatgttcta ggtgtattgt gacttttact 60
 gttatatata ttgccaatat aagtaaatat agattatata tgtatagtgt ttcacaaagc 120
 ttagaccttt accttccagc caccacacag tgcttgatat ttcagagtca gtcattgggt 180
 atacatgtgt agttccaaag cacataagct agaanaanaa atatttctag ggagcactac 240
 catctgtttt cacatgaaat gccacacaca tagaactcca acatcaattt cattgcacag 300
 a 301

<210> 280
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 280
 ggtactggag ttttctctcc ctgtgaaaac gtaactactg ttgggagtga attgaggatg 60
 tagaaagggt gtggaaccaa attgtggtca atggaaatag gagaatatgg ttctcactct 120
 tgagaaaaaa acctaagatt agcccaggta gttgcctgta acttcagttt ttctgcctgg 180
 gttgatata gtttagggtt ggggttagat taagatctaa attacatcag gacaaagaga 240
 cagactatta actccacagt taattaagga ggtatgttcc atgtttattt gttaaagcag 300
 t 301

<210> 281
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 281
 aggtacaaga aggggaatgg gaaagagctg ctgctgtggc attgttcaac ttggatattc 60
 gccgagcaat ccaaattcctg aatgaagggg catcttctga aaaaggagat ctgaatctca 120
 atgtggtagc aatggcttta tcgggttata cggatgagaa gaactccctt tggagagaaa 180
 tgtgtagcac actgcgatta cagctaaata acccgtattt gtgtgtcatg tttgcatttc 240
 tgacaagtga aacaggatct tacgatggag ttttgtatga aaacaaagt gcagtacctc 300
 g 301

<210> 282
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 282
 cagggtactac agaattaaaa tactgacaag caagtagttt cttggcgtgc acgaattgca 60
 tccagaaccc aaaaatttaag aaattcaaaa agacattttg tgggcacctg ctagcacaga 120
 agcgcagaag caaagccag gcagaacat gctaacctta cagctcagcc tgcacagaag 180
 cgcagaagca aagcccaggc agaaccatgc taaccttaca gctcagcctg cacagaagcg 240
 cagaagcaaa gcccaggcag aacatgctaa ccttacagct cagcctgcac agaagcacag 300
 a 301

<210> 283
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 283
 atctgtatag ggcagacaaa cttttatarag tgtagagagg tgagcgaaag gatgcaaaaag 60
 cactttgagg gctttataat aatatgctgc ttgaaaaaaa aaatgtgtag ttgatactca 120
 gtgcatctcc agacatagta aggggttgct ctgaccaatc aggtgatcat tttttctatc 180
 acttcccagg ttttatgcaa aaattttggt aaattctata atgggtgatg gcattcttta 240
 ggaaacatat acatttttta aaatctattt tatgtaaagaa ctgacagacg aatttgcttt 300
 g 301

<210> 284
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 284
 cagggtacaaa acgctattaa gtggccttaga atttgaacat ttgtggtctt tatttacttt 60
 gcttcgtgtg tgggcaaaagc aacatcttcc ctaaaatat attaccaaga aaagcaagaa 120
 gcagattagg tttttgacaa aacaaacagg ccaaaagggg gctgacctgg agcagagcat 180
 ggtgagaggc aaggcatgag agggcaagtt tgttgtggac agatctgtgc ctactttatt 240
 actggagtaa aagaaaacaa agttcattga tgtcgaagga tatatacagt gttagaaatt 300
 a 301

<210> 285
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 285
 acatcaccat gatcggatcc cccacccatt atacgttgta tgtttacata aatactcttc 60
 aatgatcatt agtgttttaa aaaaaatact gaagaactcct tctgcatccc aatctcctaac 120
 caggaaagca aatgctattt acagacctgc aagccctccc tcaaacnaaa ctatttctgg 180
 attaaatatg tctgacttct tttgaggtca cactgactagg caaatgctat ttacgatctg 240
 caaaagctgt ttgaagagtc aaagcccca tgtgaacacg atttctggac cctgtaacag 300
 t 301

<210> 286
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 286
 taccactgca ttccagcctg ggtgacagag tgagactccg tctccaaaaa aaactttgct 60
 tgtatattat ttttgcctta cagtggatca ttctagtagg aaaggacagt aagatttttt 120
 atcaaaatgt gtcatgccag taagagatgt tatattcttt tctcatttct tccccaccca 180
 aaaataagct accatatagc ttataagtct caaatttttg ccttttacta aaatgtgatt 240
 gtttctgttc attgtgtatg cttcatcacc tatattaggc aaattccatt ttttcccttg 300
 t 301

<210> 287
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 287
 tacagatctg ggaactaaat attaaaaatg agtgtggctg gatatatgga gaatgttggg 60
 cccagaagga acgtagagat cagatattac aacagctttg ttttgagggg tagaaatatg 120
 aaatgatttg gttatgaacg cacagttagg gcagcagggc cagaatcctg accctctgcc 180
 ccgtggttat ctccctccca gcttggctgc ctcatgttat cacagtattc cattttgttt 240
 gttgcatgtc ttgtgaagcc atcaagattt tctcgtctgt tttcctctca ttggtaatgc 300
 t 301

<210> 288
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 288
 gtacacctaa ctgcaaggac agctgaggaa tgtaatgggc agccgctttt aaagaagtag 60
 agtcaatagg aagacaaatt ccagttccag ctcatgtctg gtatctgcaa agctgcaaaa 120
 gatcttttaa gacaatttca agagaatatt tccttaaagt tggcaatttg gagatcatac 180
 aaaagcatct gcttttgtga tttaatttag ctcatctggc cactggaaga atccaaacag 240
 tctgccttaa ttttgatga atgcatgatg gaaattcaat aatttagaaa gttaaaaaaa 300
 a 301

<210> 289
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 289
 ggtacactgt ttccatgtta tgtttctaca cattgctacc tcagtgtctc tggaaactta 60
 gcttttgatg tctccaagta gtccaccttc atttaactct ttgaaactgt atcatcttg 120
 ccaagtaaga gtggtggcct atttcagctg ctttgacaaa atgactggct cctgacttaa 180

cgttctataa atgaatgtgc tgaagcaaaag tgcccatggt ggcggcgaan aagagaaaga 240
 tgtgttttgt tttggactct ctgtgggtccc ttccaatgct gtgggtttcc aaccagngga 300
 a 301

<210> 290
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 290
 aactgagct cttcttgata aatatacaga atgcttggca tatacaagat tctatactac 60
 tgactgatct gttcatttct ctcacagctc ttacccccaa aagcttttcc accctaagtg 120
 ttctgacctc ctttttctaata cacagtaggg atagaggcag anccacctac aatgaacatg 180
 gagttctatc aagaggcaga aacagcacag aatcccagtt ttaccattcg ctgacagtgc 240
 tgccttgaac aaaaacattt ctccatgtct cattttcttc atgcctcaag taacagtgag 300
 a 301

<210> 291
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 291
 caggtaccaa tttcttctat cctagaaaca tttcatttta tgttgttgaa acataacaac 60
 tatatcagct agattttttt tctatgcttt acctgctatg gaaaatttga cacattctgc 120
 tttactcttt tgtttatagg tgaatcacia aatgtatttt tatgtattct gtagttcaat 180
 agccatggct gtttacttca ttttaatttt ttagcataaa gacattatga aaaggcctaa 240
 acatgagctt cacttcccc ctaactaatt agcatctggt atttcttaac cgtaatgcct 300
 a 301

<210> 292
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 292
 accttttagt agtaatgtct aataataaat aagaaatcaa ttttataagg tccatatagc 60
 tgtattaaat aatttttaag tttaaaagat aaaataccat catttttaaat gttgggtattc 120
 aaaaccaaag natataaccg aaaggaaaaa cagatgagac ataaaatgat ttgcnagatg 180
 ggaaatatag tasttyatga atgttnatta aattccagtt ataatagtgg ctacacactc 240
 tcaactacaca cacagacccc acagtcctat atgccacaaa cacattttcca taacttgaaa 300
 a 301

<210> 293
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 293
 ggtaccaagt gctgggtgccg gcctgttacc tgttctcact gaaaagtctg gctaattgctc 60
 ttgtgtagtc acttctgatt ctgacaatca atcaatcaat ggcctagagc actgactgtt 120
 aacacaaaacg tcaactagcaa agtagcaaca gctttaagtc taaatacaaa gctgttctgt 180

gtgagaattt tttaaaaggc tacttgtata ataacccttg tcatttttaa tgtacctcgg 240
 ccgcgaccac gctaagccga attctgcaga tatccatcac actggcgcc gctcgagcat 300
 g 301

<210> 294
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 294
 tgaccataa caatatacac tagctatctt tttaaactgtc catcattagc accaatgaag 60
 attcaataaa attaccttta ttcacacatc tcaaaacaat tctgcaaatt cttagtgaag 120
 tttaaactata gtcacaganc ttaaatattc acattgtttt ctatgtctac tgaaaataag 180
 ttcactactt ttctgggata ttctttacaa aatcttatta aaattcctgg tattatcacc 240
 cccaattata cagtagcaca accaccttat gtagttttta catgatagct ctgtagaggt 300
 t 301

<210> 295
 <211> 305
 <212> DNA
 <213> Homo sapien

<400> 295
 gtactctttc tctccctcc tctgaattta attctttcaa cttgcaattt gcaaggatta 60
 cacatttcac tgtgatgtat atttgtgtgc aaaaaaaaaa gtgtctttgt ttaaaattac 120
 ttggtttggt aatccatctt gctttttccc cattgggaact agtcattaac ccatctctga 180
 actggtagaa aaacrtctga agagctagtc tatcagcatc tgacagggtga attggatggt 240
 tctcagaacc atttcaccca gacagcctgt ttctatcctg ttttaataaat tagtttgggt 300
 tctct 305

<210> 296
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 296
 aggtactatg ggaagctgct aaaataatat ttgatagtaa aagtatgtaa tgtgctatct 60
 cacctagtag taaactaaaa ataaactgaa actttatgga atctgaagtt attttccttg 120
 attaaataga attaataaac caatatgagg aaacatgaaa ccatgcaatc tactatcaac 180
 tttgaaaaag tgattgaacg aaccacttag ctttcagatg atgaacactg ataagtcatt 240
 tgtcattact ataaatttta aaatctgtta ataagatggc ctatagggag gaaaaagggg 300
 c 301

<210> 297
 <211> 300
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(300)
 <223> n = A,T,C or G

<400> 297
 actgagtttt aactggacgc caagcaggca aggctggaag gttttgctct ctttgtgcta 60
 aaggttttga aaaccttgaa ggagaatcat ttgacaaga agtacttaag agtctagaga 120
 acaaagangt gaaccagctg aaagctctcg ggggaanctt acatgtgttg ttaggcctgt 180

tccatcattg ggagtgcact ggccatccct caaaatttgt ctgggctggc ctgagtggc 240
 accgcacctc ggccgcgacc acgctaagcc gaattctgca gatatccatc acactggcgg 300

<210> 298
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 298
 tatggggttt gtcacccaaa agctgatgct gagaaaggcc tccctggggc cctcccgcg 60
 ggcattctgag agacctgggtg ttccagtgtt tctggaaatg ggtcccagtg ccgcccggctg 120
 tgaagctctc agatcaatca cgggaagggc ctggcggtgg tggccacctg gaaccacctt 180
 gtcctgtctg ttacatttc actaycaggt tttctctggg cattacnatt tgttccccta 240
 caacagtgc ctgtgcattc tgctgtggcc tgctgtgtct gcaggtggct ctcagcgagg 300
 t 301

<210> 299
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 299
 gttttgagac ggagtttcac tcttgttgcc cagactggac tgcaatggca ggtctctgac 60
 tcaactgcacc ctctgcctcc caggttcgag caattctcct gcctcagcct ccaggttagc 120
 tgggattgca ggtcaccgcc accataccca gctaattttt ttgtattttt agtagagacg 180
 gagtttcgcc atgttgggca gctggtctca aactcctgac ctcaagcgac ctgcctgcct 240
 cggcctccca aagtgcctgga attataggca tgagtcaaca cgcccagcct aaagatatatt 300
 t 301

<210> 300
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 300
 attcagtttt atttgctgcc ccagtatctg taaccaggag tgccacaaaa tcttgccaga 60
 tatgtccac accactggg aaaggctccc acctggtac ttctctatc agctgggtca 120
 gctgcattcc acaaggttct cagcctaatt agtttacta cctgccagtc tcaaaactta 180
 gtaaagcaag accatgacat tccccacgg aaatcagagt ttgcccacc gtcttggtac 240
 tataaagcct gcctctaaca gtccttgctt cttcacacca atcccagcg catcccccat 300
 g 301

<210> 301
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 301
 tttaaatttt gagaggataa aaaggacaaa taatctagaa atgtgtcttc ttcagtctgc 60
 agaggacccc aggtctccaa gcaaccacat ggtcaagggc atgaataatt aaaagttggt 120
 gggaaactcac aaagaccctc agagctgaga caccacacac agtgggagct cacaagacc 180
 ctcagagctg agacacccac aacagtggga gtcacaaaag accctcagag ctgagacacc 240
 cacaacagca cctcgttcag ctgccacatg tgtgaataag gatgcaatgt ccagaagtgt 300
 t 301

<210> 302
 <211> 301

<212> DNA
<213> Homo sapien

<400> 302
aggtacacat ttagcttggt gtaaatgact cacaaaactg attttaaaat caagttaatg 60
tgaattttga aaattactac ttaatcctaa ttcacaataa caatggcatt aaggtttgac 120
ttgagttggt tcttagtatt atttatggta aataggctct taccacttgc aaataactgg 180
ccacatcatt aatgactgac ttcccagtaa ggctctctaa ggggtaagta ggaggatcca 240
caggatttga gatgctaagg ccccagagat cgtttgatcc aaccctctta ttttcagagg 300
g 301

<210> 303
<211> 301
<212> DNA
<213> Homo sapien

<400> 303
aggtaccaac tgtggaaata ggtagaggat ctttttttct ttccatatca actaagttgt 60
atattgtttt ttgacagttt aacacatctt cttctgtcag agattctttc acaatagcac 120
tggtcaatgg aactaccgct tgcattgttaa aaatgggtgg ttgtgaaatg atcataggcc 180
agtaacgggt atgtttttct aactgatctt ttgctcgttc caaagggacc tcaagacttc 240
catcgatttt atatctgggg tctagaaaag gagttaatct gttttccctc ataaattcac 300
c 301

<210> 304
<211> 301
<212> DNA
<213> Homo sapien

<400> 304
acatggatgt tattttgcag actgtcaacc tgaatttgta tttgcttgac attgcctaatt 60
tattagtttc agtttcagct taccactttt ttgtctgcaa catgcaraas agacagtggc 120
cttttttagtg tatcatatca ggaatcatct cacattgggt tgtgccatta ctggtgcagt 180
gactttcagc cacttgggta aggtggagtt ggccatatgt ctccactgca aaattactga 240
ttttcctttt gtaattaata agtgtgtgtg tgaagattct ttgagatgag gtatatatct 300
c 301

<210> 305
<211> 301
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(301)
<223> n = A,T,C or G

<400> 305
gangtacagc gtggtcaagg taacaagaag aaaaaaatgt gagtggcatc ctgggatgag 60
cagggggaca gacctggaca gacacgttgt catttgctgc tgtgggtagg aaaatgggag 120
taaaggagga gaaacagata caaaatctcc aactcagtat taaggatttc tcatgcctag 180
aatattggta gaaacaagaa tacattcata tggcaaataa ctaaccatgg tggaacaaaa 240
ttctgggatt taagttggat accaangaaa ttgtattaaa agagctgttc atggaataag 300
a 301

<210> 306
<211> 8
<212> PRT
<213> Homo sapien

<400> 306
Val Leu Gly Trp Val Ala Glu Leu

1

5

<210> 307
 <211> 637
 <212> DNA
 <213> Homo sapien

<400> 307

acagggratg	aagggaag	gagaggatga	ggaagcccc	ctggggattt	ggtttggtcc	60
ttgtgatcag	gtggtctatg	gggcttatcc	ctacaaagaa	gaatccagaa	atagggggcac	120
attgaggaat	gatacttgag	cccaaagagc	attcaatcat	tgttttattt	gccttmtttt	180
cacaccattg	gtgagggagg	gattaccacc	ctggggttat	gaagatggtt	gaacacccca	240
cacatagcac	cggagatatg	agatcaacag	tttcttagcc	atagagattc	acagcccaga	300
gcaggaggac	gcttgccacac	catgcaggat	gacatggggg	atgcgctcgg	gattgggtgtg	360
aagaagcaag	gactgttaga	ggcaggcttt	atagtaacaa	gacgggtggg	caaactctga	420
tttccgtggg	ggaatgtcat	ggtcttgctt	tactaagttt	tgagactggc	aggtagtga	480
actcattagg	ctgagaacct	tgtggaatgc	acttgaccca	sctgatagag	gaagtagcca	540
ggtgggagcc	tttcccagtg	ggtgtggggac	atatctggca	agattttgtg	gcactcctgg	600
ttacagatac	tggggcagca	aataaaaactg	aatcttgg			637

<210> 308
 <211> 647
 <212> DNA
 <213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(647)

<223> n = A,T,C or G

<400> 308

acgattttca	ttatcatgta	aatcgggtca	ctcaaggggc	caaccacagc	tgggagccac	60
tgctcagggg	aaggttcata	tgggactttc	tactgcccaa	ggttctatac	aggatataaaa	120
ggngcctcac	agtatagatc	tggtagcaaa	gaagaagaaa	caaacactga	tctctttctg	180
ccaccctctc	gacccttttg	aactcctctg	accctttaga	acaagcctac	ctaatactctg	240
ctagagaaaa	gaccaacaac	ggcctcaaa	gatctcttac	catgaagggtc	tcagctaatt	300
cttggctaag	atgtgggttc	cacattaggt	tctgaatatg	gggggaagg	tcaatttgct	360
cattttgtgt	gtggataaa	tcaggatgcc	caggggccag	agcagggggc	tgcttgcttt	420
gggaacaatg	gctgagcata	taaccatagg	ttatggggaa	caaaacaaca	tcaaagtcac	480
tgtatcaatt	gccatgaaga	cttgaggggac	ctgaatctac	cgattcatct	taaggcagca	540
ggaccagttt	gagtggaac	aatgcagcag	cagaatcaat	ggaaacaaca	gaatgattgc	600
aatgtccttt	tttttctcct	gcttctgact	tgataaaagg	ggaccgt		647

<210> 309
 <211> 460
 <212> DNA
 <213> Homo sapien

<400> 309

actttatagt	ttaggctgga	cattggaaaa	aaaaaaaaagc	cagaacaaca	tgtgatagat	60
aatatgattg	gctgcacact	tccagactga	tgaatgatga	acgtgatgga	ctattgtatg	120
gagcacatct	tcagcaagag	ggggaaatac	tcatcatttt	tggccagcag	ttgtttgatc	180
accaaaccac	atgccagaat	actcagcaaa	ccttcttagc	tcttgagaag	tcaaagtccg	240
ggggaattta	ttcctggcaa	ttttaattgg	actccttatg	tgagagcagc	ggctacccag	300
ctgggggtgg	ggagcgaacc	cgtcactagt	ggacatgcag	tggcagagct	cctggttaacc	360
acctagagga	atacacaggc	acatgtgtga	tgccaagcgt	gacacctgta	gcactcaaat	420
ttgtcttgtt	tttgtctttc	ggtgtgtaag	attcttaagt			460

<210> 310
 <211> 539
 <212> DNA
 <213> Homo sapien

<400> 310
 acgggactta tcaaataaag ataggaaaag aagaaaactc aaatattata ggcagaaatg 60
 ctaaaggttt taaaatatgt caggattgga agaaggcatg gataaagaac aaagttcagt 120
 taggaaagag aaacacagaa ggaagagaca caataaaagt cattatgtat tctgtgagaa 180
 gtcagacagt aagattttgtg ggaatgggt tggtttggtg tatgggtatgt attttagcaa 240
 taatctttat ggcagagaaa gctaaaatcc tttagcttgc gtgaatgatc acttgctgaa 300
 ttcctcaagg taggcatgat gaaggagggt ttagaggaga cacagacaca atgaactgac 360
 ctagatagaa agccttagta tactcagcta ggaatagtga ttctgagggc acactgtgac 420
 atgattatgt cattacatgt atggtagtga tggggatgat aggaaggaag aacttatggc 480
 atattttcac cccacaaaa gtcagttaaa tattgggaca ctaaccatcc aggtcaaga 539

<210> 311
 <211> 526
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(526)
 <223> n = A,T,C or G

<400> 311
 caaatttgag ccaatgacat agaattttac aaatcaagaa gcttattctg gggccatttc 60
 ttttgacgtt ttctctaaac tactaaagag gcattaatga tccataaatt atattatcta 120
 catttacagc atttaaaatg tggtcagcat gaaatattag ctacagggga agctaaataa 180
 attaaacatg gaataaagat ttgtccctaa atataatcta caagaagact ttgatatttg 240
 tttttcacaa gtgaagcatt cttataaagt gtcataacct ttttggggaa actatgggaa 300
 aaaatgggga aactctgaag ggttttaagt atcttacctg aagctacaga ctccataacc 360
 tctctttaca gggagctcct gcagccccta cagaaatgag tggctgagat tcttgattgc 420
 acagcaagag cttctcatct aaaccctttc cctttttagt atctgtgtat caagtataaa 480
 agttctataa actgtagtnt acttatttta atccccaag cacagt 526

<210> 312
 <211> 500
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(500)
 <223> n = A,T,C or G

<400> 312
 cctctctctc cccaccccct gactctagag aactgggttt tctcccagta ctccagcaat 60
 tcattttctga aagcagttga gccactttat tccaaagtac actgcagatg ttcaaactct 120
 ccattttctct ttcccttcca cctgccagtt ttgctgactc tcaacttgct atgagtgtaa 180
 gcattaagga cattatgctt cttcgattct gaagacaggc cctgctcatg gatgactctg 240
 gcttcttagg aaaatathtt tcttccaaaa tcagtaggaa atctaaactt atccccctct 300
 tgcagatgtc tagcagcttc agacatttgg ttaagaacct atgggaaaaa aaaaaatcct 360
 tgctaagtgt gtttcctttg taaaccanga ttcttatttg nctggtatag aatatcagct 420
 ctgaacgtgt ggtaaagatt tttgtgtttg aatataggag aaatcagttt gctgaaaagt 480
 tagtcttaat tatctattgg 500

<210> 313
 <211> 718
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(718)

<223> n = A, T, C or G

<400> 313

ggagatttgt	gtggtttgca	gccgagggag	accaggaaga	tctgcatggt	gggaaggacc	60
tgatgataca	gaggtgagaa	ataagaaagg	ctgctgactt	taccatctga	ggccacacat	120
ctgctgaaat	ggagataatt	aacatcacta	gaaacagcaa	gatgacaata	taatgtctaa	180
gtagtgacat	gtttttgcac	atttccagcc	cttttaaata	tccacacaca	caggaagcac	240
aaaaggaagc	acagagatcc	ctgggagaaa	tgcccggccg	ccatcttggg	tcatcgatga	300
gcctcgccct	gtgcctgntc	ccgcttggtg	gggaaggaca	ttagaaaatg	aattgatgtg	360
ttccttaaag	gatggcagga	aaacagatcc	tggttgaggat	atttatttga	acgggattac	420
agatttgaaa	tgaagtcaca	aagtgagcat	taccaatgag	aggaaaacag	acgagaaaat	480
cttgatggtt	cacaagacat	gcaacaaaca	aaatggaata	ctgtgatgac	acgagcagcc	540
aactggggag	gagataccac	ggggcagagg	tcaggattct	ggccctgctg	cctaactgtg	600
cgttatacca	atcattttcta	tttctaccct	caaacaagct	gtngaatatc	tgacttacgg	660
ttcttntggc	ccacattttc	atnatccacc	ccntcntttt	aannttantc	caaantgt	718

<210> 314

<211> 358

<212> DNA

<213> Homo sapien

<400> 314

gtttattttac	attacagaaa	aaacatcaag	acaatgtata	ctattttcaaa	tatatccata	60
cataatcaaaa	tatagctgta	gtacatgttt	tcattgggtg	agattaccac	aaatgcaagg	120
caacatgtgt	agatctcttg	tcttattctt	ttgtctataa	tactgtattg	tgtagtccaa	180
gctctcggtg	gtccagccac	tgtgaaacat	gctcccttta	gattaacctc	gtggacgctc	240
ttgttgatt	gctgaactgt	agtgcctgt	atthttgcttc	tgtctgtgaa	ttctgttgct	300
tctggggcat	ttccttgatg	tgagagagac	caccacacag	atgacagcaa	tctgaatt	358

<210> 315

<211> 341

<212> DNA

<213> Homo sapien

<400> 315

taccacctcc	ccgctggcac	tgatgagccg	catcaccatg	gtcaccagca	ccatgaaggc	60
ataggtgatg	atgaggacat	ggaatgggcc	cccaaggatg	gtctgtccaa	agaagcgagt	120
gacccccatt	ctgaagatgt	ctggaacctc	taccagcagg	atgatgatag	ccccaatgac	180
agtcaccagc	tccccgacca	gccggatatc	gtccttaggg	gtcatgtagg	cttctgaag	240
tagcttctgc	tgtaagaggg	tggtgtcccc	ggggctcgtg	cggttattgg	tcctgggctt	300
gagggggcgg	tagatgcagc	acatggtgaa	gcagatgatg	t		341

<210> 316

<211> 151

<212> DNA

<213> Homo sapien

<400> 316

agactgggca	agactcttac	gccccacact	gcaatttggt	cttggtgccc	tatccattta	60
tgtgggcctt	tctcgagttt	ctgattataa	acaccactgg	agcgatgtgt	tgactggact	120
cattcagga	gctctggttg	caatattagt	t			151

<210> 317

<211> 151

<212> DNA

<213> Homo sapien

<400> 317

agaactagt	gacctaata	aaataacctga	aacatatatt	ggcattttatc	aatgggtcaa	60
atcttcattt	atctctggcc	tttaacctgg	ctcctgaggg	tgccggccagc	agatcccagg	120
ccagggctct	gttcttgcca	cacctgcttg	a			151

<210> 318
 <211> 151
 <212> DNA
 <213> Homo sapien

<400> 318
 actggtggga ggcgctgttt agttggctgt tttcagaggg gtctttcgga gggacctcct 60
 gctgcaggct ggagtgtctt tttcctggc gggagaccgc acattccact gctgaggctg 120
 tgggggcggg ttatcaggca gtgataaaca t 151

<210> 319
 <211> 151
 <212> DNA
 <213> Homo sapien

<400> 319
 aactagtggga tccagagcta taggtacagt gtgatctcag ctttgcaaac acattttcta 60
 catagatagt actaggtatt aatagatatg taaagaaaga aatcacacca ttaataatgg 120
 taagattggg tttatgtgat tttagtgggt a 151

<210> 320
 <211> 150
 <212> DNA
 <213> Homo sapien

<400> 320
 aactagtggga tccactagtc cagtgtgggtg gaattccatt gtgttgggggt tctagatcgc 60
 gagcggtctgc cttttttttt tttttttttg ggggggaatt tttttttttt aatagttatt 120
 gagtgttcta cagcttacag taaataccat 150

<210> 321
 <211> 151
 <212> DNA
 <213> Homo sapien

<400> 321
 agcaactttg tttttcatcc aggttatctt aggcttagga tttcctctca cactgcagtt 60
 taggggtggca ttgtaaccag ctatggcata ggtgttaacc aaaggctgag taaacatggg 120
 tgctctgag aaatcaaagt cttcatacac t 151

<210> 322
 <211> 151
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(151)
 <223> n = A,T,C or G

<400> 322
 atccagcatc ttctcctggt tcttgccctc ctttttcttc ttcttasatt ctgcttgagg 60
 tttgggcttg gtcagtgtgc cacagggctt ggagatgggt acagtcttct ggcattcggc 120
 attgtgcagg gctcgttca nacttccagt t 151

<210> 323
 <211> 151
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature

<222> (1)...(151)

<223> n = A,T,C or G

<400> 323

tgaggacttg tktttctttt cttttatttt aatcctctta cktttgtaa atattgccta	60
nagactcant tactacccag tttgtggttt twtgggagaa atgtaactgg acagtttagct	120
gttcaatyaa aaagacactt ancccatgtg g	151

<210> 324

<211> 461

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(461)

<223> n = A,T,C or G

<400> 324

acctgtgtgg aatttcagct ttcctcatgc aaaaggattt tgtatccccg gcctacttga	60
agaagtggtc agctaaagga atccagggtg ttgggtggac tgtaataacc tttgatgaaa	120
agagttacta cgaatcccat cttggttcca gctatatcac tgacagcatg gttagaagact	180
gcgaacctca cttctagact ttcacgggtg gacgaaacgg gttcagaaac tgccaggggc	240
ctcatacagg gatatacaaaa taccctttgt gctacccagg ccctggggaa tcaggtgact	300
cacacaaatg caatagttgg tcaactgcatt tttacctgaa ccaaagctaa acccgtgtt	360
gccaccatgc accatggcat gccagagttc aacactgttg ctcttgaaaa ttgggtctga	420
aaaaacgcac aagagcccct gccctgccct agctgangca c	461

<210> 325

<211> 400

<212> DNA

<213> Homo sapien

<400> 325

acactgtttc catgttatgt ttctacacat tgctacctca gtgctcctgg aaacttagct	60
tttgatgtct ccaagtagtc caccttcatt taactctttg aaactgtatc atctttgcca	120
agtaagagtg gtggcctatt tcagctgctt tgacaaaatg actggctcct gacttaacgt	180
tctataaatg aatgtgctga agcaaagtgc ccatgggtggc ggcgaagaag agaaagatgt	240
gttttgtttt ggactctctg tggctccctc caatgctgtg ggtttccaac caggggaagg	300
gtcccttttg cattgccaaag tgccataacc atgagcacta cgctaccatg gttctgcctc	360
ctggccaagc aggtgtgttt gcaagaatga aatgaatgat	400

<210> 326

<211> 1215

<212> DNA

<213> Homo sapien

<400> 326

ggaggactgc agcccgcact cgcagccctg gcaggcggca ctggtcatgg aaaacgaatt	60
gttctgctcg ggcgtcctgg tgcatecgca gtgggtgctg tcagccgcac actgtttcca	120
gaactcctac accatcgggc tgggcctgca cagtcttagg gccgaccaag agccaggag	180
ccagatgggtg gaggccagcc tctccgtacg gcacccagag tacaacagac cttgtctcgc	240
taacgacctc atgctcatca agttggacga atccgtgtcc gagtctgaca ccatccggag	300
catcagcatt gcttcgcagt gccctaccgc ggggaactct tgcctcgttt ctggctgggg	360
tctgctggcg aacggcagaa tgcctaccgt gctgcagtgc gtgaacgtgt cgggtggtgc	420
tgaggaggtc tgcagtaagc tctatgaccc gctgtaccac ccagcatgt tctgcgccg	480
cggagggcaa gaccagaagg actcctgcaa cggtgactct ggggggcccc tgatctgcaa	540
cgggtacttg cagggccttg tgtctttcgg aaaagccccg tgtggccaag ttggcgtgcc	600
aggtgtctac accaactctt gcaaattcac tgagtggata gagaaaaccg tccaggccag	660
ttaaactctg ggactgggaa cccatgaaat tgacccccaa atacatcctg cggaaggaa	720
tcaggaatat ctgttcccag cccctcctcc ctacggccca ggagtcagg ccccagccc	780
ctcctccctc aaaccaaggg tacagatccc cagccccctc tccctcagac ccaggagtcc	840

```

agacccccca gcccctcctc cctcagaccc aggagtccag cccctcctcc ctcagaccca 900
ggagtccaga cccccagcc cctcctccct cagaccaggg ggtccaggcc cccaaccct 960
cctccctcag actcagaggt ccaagcccc aaccctcct tccccagacc cagagggtcca 1020
ggtcccagcc cctcctccct cagaccagc ggtccaatgc cacctagact ctccctgtac 1080
acagtcccc cttgtggcac gttgacccaa ccttaccagt tggtttttca tttttgtcc 1140
ctttccccta gatccagaaa taaagtctaa gagaagcgca aaaaaaaaaa aaaaaaaaaa 1200
aaaaaaaaaa aaaaaa 1215

```

<210> 327
 <211> 220
 <212> PRT
 <213> Homo sapien

```

<400> 327
Glu Asp Cys Ser Pro His Ser Gln Pro Trp Gln Ala Ala Leu Val Met
1      5      10      15
Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp Val
20     25     30
Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu Gly
35     40     45
Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val Glu
50     55     60
Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro Leu Leu Ala
65     70     75     80
Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser Asp
85     90     95
Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly Asn
100    105    110
Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly Arg Met Pro
115    120    125
Thr Val Leu Gln Cys Val Asn Val Ser Val Val Ser Glu Glu Val Cys
130    135    140
Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe Cys Ala Gly
145    150    155    160
Gly Gly Gln Asp Gln Lys Asp Ser Cys Asn Gly Asp Ser Gly Gly Pro
165    170    175
Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe Gly Lys Ala
180    185    190
Pro Cys Gly Gln Val Gly Val Pro Gly Val Tyr Thr Asn Leu Cys Lys
195    200    205
Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Ala Ser
210    215    220

```

<210> 328
 <211> 234
 <212> DNA
 <213> Homo sapien

```

<400> 328
cgctcgtctc tggtagctgc agccaaatca taaacggcga ggactgcagc ccgcaactcgc 60
agccctggca ggcggcactg gtcattgaaa acgaattgtt ctgctcgggc gtcctgggtgc 120
atccgcagtg ggtgctgtca gccacacact gtttcagaaa ctcctacacc atcgggctgg 180
gcctgcacag tcttgaggcc gaccaagagc cagggagcca gatggtggag gcca 234

```

<210> 329
 <211> 77
 <212> PRT
 <213> Homo sapien

```

<400> 329
Leu Val Ser Gly Ser Cys Ser Gln Ile Ile Asn Gly Glu Asp Cys Ser
1      5      10      15

```

Pro His Ser Gln Pro Trp Gln Ala Ala Leu Val Met Glu Asn Glu Leu
 20 25 30
 Phe Cys Ser Gly Val Leu Val His Pro Gln Trp Val Leu Ser Ala Thr
 35 40 45
 His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu Gly Leu His Ser Leu
 50 55 60
 Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val Glu Ala
 65 70 75

<210> 330
 <211> 70
 <212> DNA
 <213> Homo sapien

<400> 330
 cccaacacaa tggcccgatc ccattccctga ctccgcccctc aggatcgctc gtctctggta 60
 gctgcagcca 70

<210> 331
 <211> 22
 <212> PRT
 <213> Homo sapien

<400> 331
 Gln His Asn Gly Pro Ile Pro Ser Leu Thr Pro Pro Ser Gly Ser Leu
 1 5 10 15
 Val Ser Gly Ser Cys Ser
 20

<210> 332
 <211> 2507
 <212> DNA
 <213> Homo sapien

<400> 332
 tgggtgccgct gcagccggca gagatgggtg agctcatggt cccgctgttg ctccctccttc 60
 tgcccttctct tctgtatatg gctgcgcccc aaatcaggaa aatgctgtcc agtgggggtgt 120
 gtacatcaac tgttcagctt cctgggaaag tagttgtggt cacaggagct aatacaggta 180
 tcgggaagga gacagccaaa gagctggctc agagaggagc tcgagtatat ttagcttgcc 240
 gggatgtgga aaagggggaa ttggtggcca aagagatcca gaccacgaca gggaaccagc 300
 aggtgttggt gcggaactg gacctgtctg atactaagtc tattcgagct ttgctaagg 360
 gcttcttagc tgaggaaaag cacctccacg ttttgatcaa caatgcagga gtgatgatgt 420
 gtccgtactc gaagacagca gatggctttg agatgcacat aggagtcaac cacttgggtc 480
 acttcctcct aacctatctg ctgctagaga aactaaagga atcagcccca tcaaggatag 540
 taaatgtgtc ttccctcgca catcacctgg gaaggatcca ctccataac ctgcaggggcg 600
 agaaattcta caatgcaggc ctggcctact gtcacagcaa gctagccaac atcctcttca 660
 cccaggaact ggcccgga ga ctaaaaggct ctggcggttac gacgtattct gtacaccctg 720
 gcacagtcca atctgaactg gttcggcact catctttcat gagatggatg tgggtggcttt 780
 tctccttttt catcaagact cctcagcagg gagcccagac cagcctgcac tgtgccttaa 840
 cagaaggctc tgagattcta agtgggaatc atttcagtga ctgtcatgtg gcatgggtct 900
 ctgcccgaagc tcgtaatgag actatagcaa ggcggtgtg ggacgtcagt tgtgacctgc 960
 tgggcctccc aatagactaa caggcagtg cagttggacc caagagaaga ctgcagcaga 1020
 ctacacagta cttcttgtca aaatgattct ccttcaaggt tttcaaaacc tttagcacia 1080
 agagagcaaa accttccagc cttgcctgct tgggtgtccag ttaaaactca gtgtactgcc 1140
 agattcgtct aaatgtctgt catgtccaga tttactttgc ttctgttact gccagagtta 1200
 ctagagatat cataatagga taagaagacc ctcatatgac ctgcacagct catttccctt 1260
 ctgaaagaaa ctactaccta ggagaatcta agctatagca gggatgattt atgcaaattt 1320
 gaactagctt ctttgttcac aattcagttc ctcccaacca accagtcttc acttcaagag 1380
 ggccacactg caacctcagc ttaacatgaa taacaaagac tggctcagga gcagggttg 1440
 cccaggcatg gtggatcacc ggaggtcagt agttcaagac cagcctggcc aacatggtga 1500
 aacccacact ctactaaaaa ttgtgtatat ctttgtgtgt ctctctgttt atgtgtgcca 1560
 agggagtatt ttcacaaagt tcaaaacagc cacaataatc agagatggag caaaccagtg 1620

ccatccagtc	tttatgcaaa	tgaaatgctg	caaaggggaag	cagattctgt	atatgttggt	1680
aactaccac	caagagcaca	tgggtagcag	ggaagaagta	aaaaaagaga	aggagaatac	1740
tggaagataa	tgacaaaaat	gaagggacta	gttaaggatt	aactagccct	ttaaggatta	1800
actagttaag	gattaatagc	aaaagayatt	aaatatgcta	acatagctat	ggaggaattg	1860
agggcaagca	cccaggactg	atgaggtctt	aacaaaaacc	agtgtggcaa	aaaaaaaaaa	1920
aaaaaaaaaa	aaaaatccta	aaaacaaaca	aacaaaaaaa	acaattcttc	attcagaaaa	1980
attatcttag	ggactgatat	tggttaattat	ggtcaattta	ataatatttt	ggggcatttc	2040
cttacattgt	cttgacaaga	ttaaaatgtc	tgtgccaaaa	ttttgtattt	tatttggaga	2100
cttcttatca	aaagtaatgc	tgccaaagga	agtctaagga	attagtagtg	ttcccatcac	2160
ttgtttggag	tgtgctattc	taaaagattt	tgatttcctg	gaatgacaat	tatattttaa	2220
ctttggtggg	ggaaagagtt	ataggaccac	agtcttcact	tctgatactt	gtaaattaat	2280
cttttattgc	acttggtttg	accattaagc	tatatgttta	gaaatggtca	ttttacggaa	2340
aaattagaaa	aattctgata	atagtgcaga	ataaatgaat	taatgtttta	cttaatttat	2400
attgaactgt	caatgacaaa	taaaaattct	ttttgattat	ttttgtttt	catttaccag	2460
aataaaaacg	taagaattaa	aagtttgatt	acaaaaaaaa	aaaaaaa		2507

<210> 333
 <211> 3030
 <212> DNA
 <213> Homo sapien

<400> 333						
gcaggcgact	tgccagctgg	gagcgattta	aaacgccttg	gattcccccg	gcctgggtgg	60
ggagagcgag	ctgggtgccc	cctagattcc	cgcggccgcg	acctcatgag	ccgaccctcg	120
gctccatgga	gcccggcaat	tatgccacct	tggtgggagc	caaggatata	gaaggcttgc	180
tgggagcggg	agggggcg	aatctggtcg	cccactcccc	tctgaccagc	caccagcg	240
cgccacgct	gatgcctgct	gtcaactatg	cccccttggg	tctgccaggc	tcggcgaggc	300
cgccaaagca	atgccacca	tgccctgggg	tgccccaggg	gacgtcccca	gctcccgtgc	360
cttatggtta	ctttggaggc	gggtactact	cctgcccagt	gtcccggagc	tcgctgaaac	420
cctgtgcccc	ggcagccacc	ctggccgcgt	accccgcgga	gactccacg	gccggggaag	480
agtaccaccag	ycgcccact	gagtttgctt	tctatccggg	atatccggga	acctaccagc	540
ctatggccag	ttacctggac	gtgtctgtgg	tgccagactc	gggtgctcct	ggagaaccgc	600
gacatgactc	cctgttgcc	gtggacagtt	accagtcttg	ggctctcgct	ggtggctgga	660
acagccagat	gtgttgccag	ggagaacaga	acccaccagg	tcccttttgg	aaggcagcat	720
ttgcagactc	cagcgggagc	caccctcctg	acgcctgcgc	ctttcgctcg	ggccgcaaga	780
aacgcatttc	gtacagcaag	gggcagttgc	gggagctgga	gcgggagtat	gcggctaaca	840
agttcatcac	caaggacaag	agggcgcaaga	tctcggcagc	caccagcctc	tcggagcgcc	900
agattaccat	ctggtttcag	aaccgcccgg	tcaaagagaa	gaaggttctc	gccaaaggtga	960
agaacagcgc	tacccttaa	gagatctcct	tgccctgggtg	ggaggagcga	aagtgggggt	1020
gtcctgggga	gaccaggaac	ctgccaagcc	caggctgggg	ccaaggactc	tgctgagagg	1080
cccctagaga	caacaccctt	cccaggccac	tggtctgtgg	actgttctct	aggagcgggc	1140
tgggtaccga	gtatgtgcag	ggagacggaa	ccccatgtga	cagccactc	caccagggtt	1200
cccaaagaac	ctggcccagt	cataatcatt	catcctgaca	gtggcaataa	tcacgataac	1260
cagtactagc	tgccatgatc	gttagcctca	tattttctat	ctagagctct	gtagagcact	1320
ttagaaaccg	ctttcatgaa	ttgagctaata	tatgaataaa	tttggaaggc	gatccctttg	1380
cagggaagct	ttctctcaga	cccccttcca	ttacacctct	caccctggta	acagcaggaa	1440
gactgaggag	aggggaacgg	gcagattcgt	tgtgtggctg	tgatgtccgt	ttagcatttt	1500
tctcagctga	cagctgggta	ggtggacaat	tgtagaggct	gtctcttctt	ccctccttgt	1560
ccaccccata	gggtgtaccc	actggtcttg	gaagcaccca	tccttaatac	gatgattttt	1620
ctgtcgtgtg	aaaatgaagc	cagcaggctg	cccttagtca	gtccttctct	ccagagaaaa	1680
agagatttga	gaaagtgcct	gggtaattca	ccattaattt	cctcccccaa	actctctgag	1740
tcttccctta	atatttctgg	tggttctgac	caaagcaggt	catgggtttg	tgagcatttg	1800
ggatcccagt	gaagtagatg	tttgtagcct	tgcatactta	gcccttccca	ggcacaacg	1860
gagtggcaga	gtggtgccaa	ccctgttttc	ccagtccacg	tagacagatt	cacagtgcgg	1920
aattctggaa	gctggagaca	gacgggctct	ttgcagagcc	gggactctga	gagggacatg	1980
agggcctctg	cctctgtgtt	cattctctga	tgtcctgtac	ctgggctcag	tgcccgggtg	2040
gactcatctc	ctggccgcgc	agcaaaagcca	gcgggttcgt	gctgggtcct	cctgcacctt	2100
aggctggggg	tggggggcct	gccggcgcat	tctccacgat	tgagcgcaca	ggcctgaagt	2160
ctggacaacc	cgcagaaccg	aagctccgag	cagcgggtcg	gtggcgagta	gtggggctcg	2220
tggcgagcag	ttggtggtgg	gccgcggccg	ccactacctc	gaggacattt	ccctcccgga	2280
gccagctctc	ctagaaaccc	cgcggcgggc	gccgcagcca	agtgtttatg	gccgcgggtc	2340
gggtgggatc	ctagccctgt	ctcctctcct	gggaaggagt	gaggggtggg	cgtgacttag	2400

acacctacaa	atctattttac	caaagaggag	cccgggactg	agggaaaagg	ccaaagagtg	2460
tgagtgcag	cggactgggg	gttcaggagg	agaggacgag	gaggaggaag	atgaggtcga	2520
tttccctgatt	taaaaaatcg	tccaagcccc	gtgggtccagc	ttaaggtcct	cggttacatg	2580
cgccgctcag	agcaggtcac	tttctgcctt	ccacgtcctc	cttcaaggaa	gccccatgtg	2640
ggtagctttc	aatatcgag	gttcttactc	ctctgcctct	ataagctcaa	acccaccaac	2700
gatcgggcaa	gtaaaccccc	tccctcgccg	acttcggaac	tggcgagagt	tcagcgagag	2760
tgggcctgtg	gggagggggc	aagatagatg	agggggagcg	gcatgggtgcg	gggtgacccc	2820
ttggagagag	gaaaaaggcc	acaagagggg	ctgccaccgc	cactaacgga	gatggccctg	2880
gtagagacct	ttgggggtct	ggaacctctg	gactcccat	gctctaactc	ccacactctg	2940
ctatcagaaa	cttaaaactg	aggattttct	ctgtttttca	ctcgcaataa	aytcagagca	3000
aacaaaaaaa	aaaaaaaaaa	aaaactcgag				3030

<210> 334

<211> 2417

<212> DNA

<213> Homo sapien

<400> 334

ggcgccgct	ctagagctag	tgggatcccc	cgggctgcac	gaattcggca	cgagtgagtt	60
ggagttttac	ctgtattgtt	ttaatttcaa	caagcctgag	gactagccac	aaatgtaccc	120
agtttacaaa	tgaggaaaaca	ggtgcaaaaa	ggttgttacc	tgtcaaagg	cgtatgtggc	180
agagccaaga	tttgagccca	gttatgtctg	atgaacttag	cctatgctct	ttaaacttct	240
gaatgctgac	cattgaggat	atctaaactt	agatcaattg	cattttccct	ccaagactat	300
ttacttatca	atacaataat	accaccttta	ccaatctatt	gttttgatac	gagactcaaa	360
tatgccagat	atatgtaaaa	gcaacctaca	agctctctaa	tcatgctcac	ctaaaagatt	420
cccggtatct	aataggctca	aagaaacttc	ttctagaaat	ataaaagaga	aaattggatt	480
atgcaaaaaat	tcattatttaa	tttttttcat	ccatccttta	attcagcaaa	catttatctg	540
ttgttgactt	tatgcagtat	ggccttttaa	ggattggggg	acagggtgaag	aacgggggtgc	600
cagaatgcat	cctcctacta	atgaggtcag	tacacatttg	catttttaaa	tgccctgtcc	660
agctgggcat	ggtggatcat	gcctgtaatc	tcaacattgg	aaggccaagg	caggaggatt	720
gcttcagccc	aggagttcaa	gaccagcctg	ggcaacatag	aaagacccca	tctctcaatc	780
aatcaatcaa	tgccctgtct	ttgaaaataa	aactctttaa	gaaaggttta	atgggagagg	840
tgtggtagct	catgcctata	atacagcaat	ttgggaggct	gaggcaggag	gatcacttta	900
gcccagaagt	tcaagaccag	cctgggcaac	aagtgcaccc	tcatctcaat	tttttaataa	960
aatgaatata	tacataagga	aagataaaaa	gaaaagttta	atgaaagaat	acagtataaa	1020
acaaatctct	tggaacctaa	agtatttttg	ttcaagccaa	atattgtgaa	tcacctctct	1080
gtgttgagta	tacagaatat	ctaagcccag	gaaactgagc	agaaagttca	tgtactaact	1140
aatcaaccgg	aggcaaggca	aaaatgagac	taactaatca	atccgaggca	aggggcaaat	1200
tagacggaac	ctgactctgg	tctattaagc	gacaactttc	cctctgttgt	atttttcttt	1260
tattcaatgt	aaaaggataa	aaactctcta	aaactaaaaa	caatgtttgt	caggagttac	1320
aaaccatgac	caactaatta	tggggaatca	taaaatatga	ctgtatgaga	tcttgatggg	1380
ttacaaagt	taccactgt	taatcacttt	aaacattaat	gaacttaaaa	atgaatttac	1440
ggagatttga	atgtttcttt	cctgttgtat	tagttggctc	aggctgccat	aacaaaatac	1500
cacagactgg	gaggcttaag	taacagaaat	tcatttctca	cagttctggg	ggctggaagt	1560
ccacgatcaa	ggtgcaggaa	aggcaggctt	cattctgagg	cccctctctt	ggctcacatg	1620
tggccaccct	cccactgcgt	gctcacatga	cctctttgtg	ctcctggaaa	gagggtgtgg	1680
gggacagagg	gaaagagaag	gagaggggaa	tctctggtgt	ctcgtctttc	aaggacccta	1740
acctggggcca	ctttggccca	ggcactgtgg	ggtggggggg	tgtggctgct	ctgctctgag	1800
tggccaagat	aaagcaacag	aaaaatgtcc	aaagctgtgc	agcaaagaca	agccaccgaa	1860
cagggatctg	ctcatcagtg	tggggacctc	caagtcggcc	accctggagg	caagccccc	1920
cagagcccat	gcaaggtggc	agcagcagaa	gaagggaatt	gtccctgtcc	ttggcacatt	1980
cctcaccgac	ctggtgatgc	tggacactgc	gatgaatggg	aatgtggatg	agaatatgat	2040
ggactcccag	aaaaggagac	ccagctgctc	aggtggctgc	aaatcattac	agccttcac	2100
ctggggagga	actggggggc	tgggtctggg	tcagagagca	gcccagtgag	ggtgagagct	2160
acagcctgtc	ctgccagctg	gatccccagt	cccgggtcaac	cagtaataca	ggctgagcag	2220
atcaggcttc	cggagctgg	tcttggaag	ccagccctgg	ggtgagttgg	ctcctgctgt	2280
ggtactgaga	caatattgtc	ataaattcaa	tgcgcccttg	tatccctttt	tcttttttat	2340
ctgtctacat	ctataatcac	tatgcatact	agtctttgtt	agtgtttcta	ttcmacttaa	2400
tagagatatg	ttatact					2417

<210> 335

<211> 2984

<212> DNA

<213> Homo sapien

<400> 335

atccctcctt	ccccactctc	ctttccagaa	ggcacttg	gtcttatctg	ttggactctg	60
aaaacacttc	aggcgccctt	ccaaggcttc	cccaaacc	taagcagccg	cagaagcgct	120
cccga	gctgc	cttctccac	actcaggtga	tcgagttgga	gaggaagttc	180
agtacctgtc	ggccccctgaa	cgggcccacc	tggccaagaa	cctcaagctc	acggagaccc	240
aagtgaagat	atggttccag	aacagacgct	ataagactaa	gcgaaagcag	ctctcctcgg	300
agctgggaga	cttgagagaag	cactcctctt	tgccggccct	gaaagaggag	gccttctccc	360
gggcctccct	ggtctccgtg	tataacagct	atccttacta	cccatacctg	tactgcgtgg	420
gcagctggag	cccagctttt	tggtaatgcc	agctcaggtg	acaaccatta	tgatcaaaaa	480
ctgccttccc	cagggtgtct	ctatgaaaag	cacaaggggc	caaggtcagg	gagcaagagg	540
tgtgcacacc	aaagctattg	gagatttgcg	tggaaatctc	asattcttca	ctgggtgagac	600
aatgaaacaa	cagagacagt	gaaagtttta	atacctaagt	cattccccc	gtgcatactg	660
taggtcattt	tttttgcttc	tggctacctg	tttgaagggg	agagagggaa	aatcaagttg	720
tattttccag	cactttgtat	gattttggat	gagctgtaca	cccaaggatt	ctgttctgca	780
actccatcct	cctgtgtcac	tgaatatcaa	ctctgaaaga	gcaaacctaa	caggagaaag	840
gacaaccagg	atgaggatgt	caccaactga	attaaactta	agtccagaag	cctcctgttg	900
gccttggaat	atggccaagg	ctctctctgt	ccctgtaaaa	gagaggggca	aatagagagt	960
ctccaagaga	acgccctcat	gctcagcaca	tatttgcatt	ggagggggag	atgggtggga	1020
ggagatgaaa	atatcagctt	ttcttattcc	tttttattcc	ttttaaaatg	gtatgccaac	1080
ttaagtattt	acaggggtggc	ccaaatagaa	caagatgcac	tcgctgtgat	tttaagacaa	1140
gctgtataaa	cagaactcca	ctgcaagagg	gggggcccgg	ccaggagaat	ctccgcttgt	1200
ccaagacagg	ggcctaagga	gggtctccac	actgctgcta	ggggctgttg	cattttttta	1260
ttagtagaaa	gtggaaaggc	ctcttctcaa	cttttttccc	ttgggctgga	gaatttagaa	1320
tcagaagttt	cctggagttt	tcaggctatc	atatatactg	tatcctgaaa	ggcaacataa	1380
ttcttccttc	cctcctttta	aaattttgtg	ttcctttttg	cagcaattac	tcactaaaag	1440
gcttcatttt	agtccagatt	tttagtctgg	ctgcacctaa	cttatgcctc	gcttatttag	1500
cccagatct	ggtctttttt	tttttttttt	tttttccgtc	tcccaaagc	tttatctgtc	1560
ttgacttttt	aaaaaagttt	gggggcagat	tctgaattgg	ctaaaagaca	tgcattttta	1620
aaactagcaa	ctcttatttc	tttcctttta	aaatacatag	cattaaatcc	caaattcctat	1680
ttaaagacct	gacagcttga	gaaggctcact	actgcattta	taggaccttc	tggtggttct	1740
gctgttacgt	ttgaagtctg	acaatccttg	agaatctttg	catgcagagg	aggtaagagg	1800
tattggattt	tcacagagga	agaacacagc	gcagaatgaa	gggccaggct	tactgagctg	1860
tccagtggag	ggctcatggg	tgggacatgg	aaaagaaggc	agcctaggcc	ctggggagcc	1920
cagtccactg	agcaagcaag	ggactgagtg	agccttttgc	aggaaaaggc	taagaaaaag	1980
gaaaaccatt	ctaaaacaca	acaagaaact	gtccaaatgc	tttgggaact	gtgtttattg	2040
cctataatgg	gtccccaata	tgggtaacct	agacttcaga	gagaatgagc	agagagcaaa	2100
ggagaaatct	ggctgtcctt	ccattttcat	tctgttatct	cagggtgagct	ggtagagggg	2160
agacattaga	aaaaaatgaa	acaacaaaac	aattactaat	gaggtacgct	gaggcctggg	2220
agtctcttga	ctccactact	taattccgtt	tagtgagaaa	cctttcaatt	ttcttttatt	2280
agaagggcc	gcttactgtt	ggtggcaaaa	ttgccaacat	aaagttggcc	aaagttggcc	2340
aatttcaccc	cattttctgt	ggtttgggct	ccacatttga	atgttcaatg	ccacgtgctg	2400
ctgacaccga	ccggagtagt	agccagcaca	aaaggcaggg	tagcctgaat	tgctttctgc	2460
tctttacatt	tcttttaaaa	taagcattta	gtgctcagtc	cctactgagt	actctttctc	2520
tcccctcctc	tgaatttaaat	tctttcaact	tgcaattttg	aaggattaca	catttcaactg	2580
tgatgtatat	tgtgttgcaa	aaaaaaaaaa	aagtgtcttt	gtttaaaatt	acttgggttg	2640
tgaatccat	ttgctttttc	cccatttgaa	ctagtcat	acccatctct	gaactggtag	2700
aaaaacatct	gaagagctag	tctatcagca	tctgacaggt	gaattggatg	gttctcagaa	2760
ccatttcacc	cagacagcct	gtttctatcc	tgtttaataa	attagtttgg	gttctctaca	2820
tgcataacaa	accctgctcc	aatctgtcac	ataaaagtct	gtgacttgaa	gttttagtcag	2880
cacccccacc	aaactttatt	tttctatgtg	ttttttgcaa	catatgagtg	ttttgaaaat	2940
aaagtacc	tgtctttatt	agaaaaaaa	aaaaaaaaaa	aaaa		2984

<210> 336

<211> 147

<212> PRT

<213> Homo sapien

<400> 336

Pro Ser Phe Pro Thr Leu Leu Ser Arg Arg His Leu Gly Ser Tyr Leu

102

```

1           5           10           15
Leu Asp Ser Glu Asn Thr Ser Gly Ala Leu Pro Arg Leu Pro Gln Thr
20           25           30
Pro Lys Gln Pro Gln Lys Arg Ser Arg Ala Ala Phe Ser His Thr Gln
35           40           45
Val Ile Glu Leu Glu Arg Lys Phe Ser His Gln Lys Tyr Leu Ser Ala
50           55           60
Pro Glu Arg Ala His Leu Ala Lys Asn Leu Lys Leu Thr Glu Thr Gln
65           70           75           80
Val Lys Ile Trp Phe Gln Asn Arg Arg Tyr Lys Thr Lys Arg Lys Gln
85           90           95
Leu Ser Ser Glu Leu Gly Asp Leu Glu Lys His Ser Ser Leu Pro Ala
100          105          110
Leu Lys Glu Glu Ala Phe Ser Arg Ala Ser Leu Val Ser Val Tyr Asn
115          120          125
Ser Tyr Pro Tyr Tyr Pro Tyr Leu Tyr Cys Val Gly Ser Trp Ser Pro
130          135          140
Ala Phe Trp
145

```

```

<210> 337
<211> 9
<212> PRT
<213> Homo sapien

```

```

<400> 337
Ala Leu Thr Gly Phe Thr Phe Ser Ala
1           5

```

```

<210> 338
<211> 9
<212> PRT
<213> Homo sapien

```

```

<400> 338
Leu Leu Ala Asn Asp Leu Met Leu Ile
1           5

```

```

<210> 339
<211> 318
<212> PRT
<213> Homo sapien

```

```

<400> 339
Met Val Glu Leu Met Phe Pro Leu Leu Leu Leu Leu Pro Phe Leu
1           5           10           15
Leu Tyr Met Ala Ala Pro Gln Ile Arg Lys Met Leu Ser Ser Gly Val
20           25           30
Cys Thr Ser Thr Val Gln Leu Pro Gly Lys Val Val Val Thr Gly
35           40           45
Ala Asn Thr Gly Ile Gly Lys Glu Thr Ala Lys Glu Leu Ala Gln Arg
50           55           60
Gly Ala Arg Val Tyr Leu Ala Cys Arg Asp Val Glu Lys Gly Glu Leu
65           70           75           80
Val Ala Lys Glu Ile Gln Thr Thr Thr Gly Asn Gln Gln Val Leu Val
85           90           95
Arg Lys Leu Asp Leu Ser Asp Thr Lys Ser Ile Arg Ala Phe Ala Lys
100          105          110
Gly Phe Leu Ala Glu Glu Lys His Leu His Val Leu Ile Asn Asn Ala
115          120          125
Gly Val Met Met Cys Pro Tyr Ser Lys Thr Ala Asp Gly Phe Glu Met

```


130	135	140
His Ile Gly Val Asn His Leu Gly His Phe Leu Leu Thr His Leu Leu		
145	150	155
Leu Glu Lys Leu Lys Glu Ser Ala Pro Ser Arg Ile Val Asn Val Ser		160
	165	170
Ser Leu Ala His His Leu Gly Arg Ile His Phe His Asn Leu Gln Gly		175
	180	185
Glu Lys Phe Tyr Asn Ala Gly Leu Ala Tyr Cys His Ser Lys Leu Ala		190
	195	200
Asn Ile Leu Phe Thr Gln Glu Leu Ala Arg Arg Leu Lys Gly Ser Gly		205
	210	215
Val Thr Thr Tyr Ser Val His Pro Gly Thr Val Gln Ser Glu Leu Val		220
225	230	235
Arg His Ser Ser Phe Met Arg Trp Met Trp Trp Leu Phe Ser Phe Phe		240
	245	250
Ile Lys Thr Pro Gln Gln Gly Ala Gln Thr Ser Leu His Cys Ala Leu		255
	260	265
Thr Glu Gly Leu Glu Ile Leu Ser Gly Asn His Phe Ser Asp Cys His		270
	275	280
Val Ala Trp Val Ser Ala Gln Ala Arg Asn Glu Thr Ile Ala Arg Arg		285
	290	295
Leu Trp Asp Val Ser Cys Asp Leu Leu Gly Leu Pro Ile Asp		300
305	310	315

<210> 340
 <211> 483
 <212> DNA
 <213> Homo sapien

<400> 340					60
gccgaggtct gccttcacac ggaggacacg agactgcttc ctcaagggct cctgcctgcc					120
tggacactgg tgggaggcgc tgtttagttg gctgttttca gaggggtctt tcggagggac					180
ctcctgctgc aggctggagt gtctttattc ctggcgggag accgcacatt ccaactgctga					240
ggttgtgggg gcggtttatc aggcagtgat aaacataaga tgtcatttcc ttgactccgg					300
ccttcaattt tctctttggc tgacgacgga gtccgtggtg tcccgatgta actgaccct					360
gctccaaacg tgacatcact gatgctcttc tcgggggtgc tgatggcccg cttgggtcacg					420
tgctcaatct cgccattcga ctcttgctcc aaactgtatg aagacacctg actgcacgtt					480
ttttctgggc ttccagaatt taaagtgaag ggcagcactc ctaagctccg actccgatgc					483
ctg					

<210> 341
 <211> 344
 <212> DNA
 <213> Homo sapien

<400> 341					60
ctgctgctga gtcacagatt tcattataaa tagcctccct aaggaaaata cactgaatgc					120
tatttttact aaccattcta tttttataga aatagctgag agtttctaaa ccaactctct					180
gctgccttac aagtattaaa tattttactt ctttccataa agagtagctc aaaatatgca					240
attaatttaa taatttctga tgatggtttt atctgcagta atatgtatat catctattag					300
aatttactta atgaaaaact gaagagaaca aaatttgtaa ccactagcac ttaagtactc					344
ctgattctta acattgtctt taatgaccac aagacaacca acag					

<210> 342
 <211> 592
 <212> DNA
 <213> Homo sapien

<400> 342					60
acagcaaaaa agaaactgag aagcccaaty tgctttcttg ttaacatcca cttatccaac					120
caatgtggaa acttcttata cttggttcca ttatgaagtt ggacaattgc tgctatcaca					180
cctggcaggt aaaccaatgc caagagagtg atggaaacca ttggcaagac tttgttgatg					

104

accaggattg	gaattttata	aaaatattgt	tgatgggaag	ttgctaaagg	gtgaattact	240
tccctcagaa	gagtgtaaag	aaaagtcaga	gatgctataa	tagcagctat	tttaattggc	300
aagtgccact	gtggaaagag	ttcctgtgtg	tgctgaagtt	ctgaaggcca	gtcaaattca	360
tcagcatggg	ctgtttgggtg	caaatgcaaa	agcacaggtc	tttttagcat	gctgggtctct	420
cccgtgtcct	tatgcaaata	atcgtcttct	tctaaatttc	tcctaggctt	cattttccaa	480
agttcttctt	ggtttgtgat	gtcttttctg	ctttccatta	attctataaa	atagtatggc	540
ttcagccacc	cactcttcgc	cttagcttga	ccgtgagtct	cggctgccgc	tg	592

<210> 343
 <211> 382
 <212> DNA
 <213> Homo sapien

<400> 343						
ttcttgacct	cctcctcctt	caagctcaaa	caccacctcc	cttattcagg	accggcactt	60
cttaatgttt	gtggctttct	ctccagcctc	tcttagggag	ggtaatgggtg	gagttggcat	120
cttgtaactc	tcctttctcc	tttcttcccc	tttctctgcc	cgcctttccc	atcctgtctg	180
agacttcttg	attgtcagtc	tgtgtcacat	ccagtgattg	ttttggtttc	tgttcccttt	240
ctgactgcc	aaggggctca	gaaccccagc	aatcccttcc	tttactacc	ttcttttttg	300
ggggtagtgtg	gaagggactg	aaattgtggg	gggaaggtag	gaggcacatc	aataaaggag	360
aaaccaccaa	gctgaaaaaa	aa				382

<210> 344
 <211> 536
 <212> DNA
 <213> Homo sapien

<400> 344						
ctgggcctga	agctgtaggg	taaatcagag	gcaggcttct	gagtgatgag	agtcctgaga	60
caataggcca	cataaacttg	gctggatgga	acctcacaat	aagggtggta	cctcttggtt	120
gtttaggggg	atgccaagga	taaggccagc	tcagttatat	gaagagaagc	agaacaaaca	180
agtctttcag	agaaatggat	gcaatcagag	tgggatcccc	gtcacatcaa	ggtcacactc	240
caccttcatg	tgctgaatg	gttgccagg	cagaaaaatc	cacctttac	gagtgcggct	300
tcgaccttat	atcccccgcc	cgcgtccctt	tctccataaa	attcttctta	gtagctatta	360
ccttcttatt	atttgatcta	gaaattgccc	tcctttttacc	cctaccatga	gccctacaaa	420
caactaacct	gccactaata	gttatgtcat	ccctcttatt	aatcatcatc	ctagccctaa	480
gtctggccta	tgagtgacta	caaaaaggat	tagactgagc	cgaataacaa	aaaaaa	536

<210> 345
 <211> 251
 <212> DNA
 <213> Homo sapien

<400> 345						
accttttgag	gtctctctca	ccacctccac	agccaccgtc	accgtgggat	gtgctggatg	60
tgaatgaagc	ccccatcttt	gtgcctcctg	aaaagagagt	ggaagtgtcc	gaggactttg	120
gcgtgggcca	ggaaatcaca	tcctacactg	cccaggagcc	agacacattt	atggaacaga	180
aaataacata	tcggatttgg	agagacactg	ccaactggct	ggagattaat	ccggacactg	240
gtgccatttc	c					251

<210> 346
 <211> 282
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(282)
 <223> n = A,T,C or G

<400> 346						
cgcgtctctg	acactgtgat	catgacaggg	gttcaaacag	aaagtgcctg	ggccctcctt	60

ctaagtcttg	ttaccaaaaa	aaggaaaaag	aaaagatctt	ctcagttaca	aattctggga	120
agggagacta	tacctggctc	ttgccctaag	tgagaggctc	tccctcccgc	acaaaaaat	180
agaaaggctt	tctatttcac	tggcccaggt	agggggaagg	agagtaactt	tgagtctgtg	240
ggtctcattt	cccaagggtc	cttcaatgct	catnaaaacc	aa		282

<210> 347
 <211> 201
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(201)
 <223> n = A,T,C or G

<400> 347						60
acacacataa	tattataaaa	tgccatctaa	ttggaaggag	ctttctatca	ttgcaagtca	120
taaatataac	ttttaaaana	ntactancag	cttttaccta	ngtcctaaa	tgcttgtaaa	180
tctgagactg	actggaccca	cccagaccca	gggcaaagat	acatggtacc	atatcatctt	201
tataaagaat	ttttttttgt	c				

<210> 348
 <211> 251
 <212> DNA
 <213> Homo sapien

<400> 348						60
ctgttaatca	caacatttgt	gcatcacttg	tgccaagtga	gaaaatgttc	taaaatcaca	120
agagagaaca	gtgccagaat	gaaactgacc	ctaagtccca	ggtgcccctg	ggcaggcaga	180
aggagacact	cccagcatgg	aggagggttt	atcttttcat	cctaggtcag	gtctacaatg	240
ggggaagggt	ttattataga	actcccaaca	gcccacctca	ctcctgccac	ccacccgatg	251
gccctgcctc	c					

<210> 349
 <211> 251
 <212> DNA
 <213> Homo sapien

<400> 349						60
taaaaaatcaa	gccatttaat	tgtatctttg	aaggtaaaca	atatatggga	gctggatcac	120
aaccctgag	gatgccagag	ctatgggtcc	agaacatggt	gtggattat	caacagagtt	180
cagaagggtc	tgaactctac	gtgttaccag	agaacataat	gcaattcatg	cattccactt	240
agcaattttg	taaaatacca	gaaacagacc	ccaagagtct	ttcaagatga	ggaaaattca	251
actcctggtt	t					

<210> 350
 <211> 908
 <212> DNA
 <213> Homo sapien

<400> 350						60
ctggacactt	tgcgagggt	tttgctggct	gctgctgctg	cccgtcatgc	tactcatcgt	120
agcccgcgcg	gtgaagctcg	ctgctttccc	tacctcctta	agtgactgcc	aaacgcccac	180
cggctggaat	tgctctggtt	atgatgacag	agaaaatgat	ctcttcctct	gtgacaccaa	240
cacctgtaaa	tttgatgggg	aatgtttaag	aattggagac	actgtgactt	gcgtctgtca	300
gttcaagtgc	aacaatgact	atgtgcctgt	gtgtggctcc	aatggggaga	gctaccagaa	360
tgagtgttac	ctgcgacagg	ctgcatgcaa	acagcagagt	gagatacttg	tggtgtcaga	420
aggatcatgt	gccacagtcc	atgaaggctc	tggagaaact	agtcaaaagg	agacatccac	480
ctgtgatatt	tgccagtttg	gtgcagaatg	tgacgaagat	gccgaggatg	tctgggtgtg	540
gtgtaatat	gactgttctc	aaaccaactt	caatcccctc	tgcgcttctg	atgggaaatc	600
ttatgataat	gcatgccaaa	tcaaagaagc	atcgtgtcag	aaacaggaga	aaattgaagt	660
catgtctttg	ggtcgatgtc	aagataacac	aactacaact	actaagtctg	aagatgggca	

ttatgcaaga	acagattatg	cagagaatgc	taacaaatta	gaagaaagt	ccagagaaca	720
ccacatacct	tgtccggaac	attacaatgg	cttctgcatg	catgggaagt	gtgagcattc	780
tatcaatatg	caggagccat	cttgcagggt	tgatgctgg	tatactggac	aacactgtga	840
aaaaaaggac	tacagtgttc	tatacgttgt	tcccggctct	gtacgatttc	agtatgtctt	900
aatcgag						908

<210> 351
 <211> 472
 <212> DNA
 <213> Homo sapien

<400> 351						
ccagttat	gcaagtgg	agagcctat	taccataaat	aataactaaga	accaactcaa	60
gtcaaacctt	aatgccattg	ttattgtgaa	ttaggattaa	gtagtaattt	tcaaaattca	120
cattaacttg	attttaaaat	cagwtttgyg	agtcatttac	cacaagctaa	atgtgtacac	180
tatgataaaa	acaaccattg	tattcctgtt	tttctaaaca	gtcctaattt	ctaactctgt	240
atatatcctt	cgacatcaat	gaactttgtt	ttcttttact	ccagtaataa	agtaggcaca	300
gatctgtcca	caacaaactt	gccctctcat	gccttgcctc	tcaccatgct	ctgctccagg	360
tcagccccct	tttggcctgt	ttgttttgtc	aaaaacctaa	tctgcttctt	gcttttctgt	420
gtaatatata	tttagggaag	atgttgcttt	gcccacacac	gaagcaaagt	aa	472

<210> 352
 <211> 251
 <212> DNA
 <213> Homo sapien

<400> 352						
ctcaaagcta	atctctcggg	aatcaaacca	gaaaagggca	aggatcttag	gcatgggtgga	60
tgtggataag	gccagggtcaa	tggctgcaag	catgcagaga	aagagggtaca	tcggagcgtg	120
caggctgcgt	tccgtcctta	cgatgaagac	cacgatgcag	tttccaaaca	ttgccactac	180
atacatggaa	aggaggggga	agccaaccca	gaaatgggct	ttctctaata	ctgggatacc	240
aataagcaca	a					251

<210> 353
 <211> 436
 <212> DNA
 <213> Homo sapien

<400> 353						
ttttttttt	ttttttttt	ttttttacaa	caatgcagtc	atttatttat	tgagtatgtg	60
cacattatgg	tattattact	atactgatta	tatttatcat	gtgacttcta	attaraaaat	120
gtatccaaaa	gcaaaacagc	agatatata	aattaaagag	acagaagata	gacattaaca	180
gataaggcaa	cttatacatt	gacaatccaa	atccaatata	tttaaactt	tgaggaaatga	240
gggggacaaa	tggaagccar	atcaaatttg	tgtaaaacta	ttcagtatgt	ttcccttgct	300
tcatgtctga	raaggctctc	ccttcaatgg	ggatgacaaa	ctccaaatgc	cacacaaatg	360
ttaacagaat	actagattca	cactggaacg	ggggtaaaga	agaaattatt	ttctataaaa	420
gggctcctaa	tgtagt					436

<210> 354
 <211> 854
 <212> DNA
 <213> Homo sapien

<400> 354						
ccttttctag	ttcaccagtt	ttctgcaagg	atgctgggta	gggagtgtct	gcaggaggag	60
caagtctgaa	accaaatacta	ggaaacatag	gaaacgagcc	aggcacaggg	ctgggtgggccc	120
atcaggggacc	accctttggg	ttgatatttt	gcttaatctg	catcttttga	gtaagatcat	180
ctggcagtag	aagctgttct	ccagggtacat	ttctctagct	catgtacaaa	aacatcctga	240
aggactttgt	cagggtgcctt	gctaaaagcc	agatgcgttc	ggcacttcct	tggtctgagg	300
ttaattgcac	acctacaggc	actgggctca	tgctttcaag	tattttgtcc	tcactttagg	360
gtgagtga	gatccccatt	ataggagcac	ttgggagaga	tcatataaaa	gctgactctt	420
gagtacatgc	agtaatgggg	tagatgtgtg	tggtgtgtct	tcattcctgc	aagggtgctt	480

gtagggagtg	gtttccagga	ggaacaagtc	tgaaccaat	catgaaataa	atggtaggtg	540
tgaactggaa	aactaattca	aaagagagat	cgtgatata	gtgtggttga	tacaccttgg	600
caatatggaa	ggctctaatt	tgcccatatt	tgaataata	attcagcttt	ttgtaataca	660
aaataacaaa	ggattgagaa	tcatgggtgc	taatgtataa	aagacccagg	aaacataaat	720
atatcaactg	cataaatgta	aaatgcatgt	gacccaagaa	ggcccaaaag	tggcagacaa	780
cattgtaccc	attttccctt	ccaaaatgtg	agcggcgggc	ctgctgcttt	caaggctgtc	840
acacgggatg	tcag					854

<210> 355
 <211> 676
 <212> DNA
 <213> Homo sapien

<400> 355						
gaaattaagt	atgagctaaa	ttccctgtta	aaacctctag	gggtgacaga	tctcttcaac	60
cagggtcaaag	ctgatctttc	tggaatgtca	ccaaccaagg	gcctatatatt	atcaaaaagcc	120
atccacaagt	catacctgga	tgtcagcgaa	gagggcacgg	aggcagcagc	agccactggg	180
gacagcatcg	ctgtaaaaag	cctaccaatg	agagctcagt	tcaaggcgaa	ccacccttc	240
ctgttcttta	taaggcacac	tcataccaac	acgatcctat	tctgtggcaa	gcttgccctt	300
ccctaatacag	atggggttga	gtaaggctca	gagttgcaga	tgaggtgcag	agacaatcct	360
gtgactttcc	cacggccaaa	aagctgttca	cacctcacgc	acctctgtgc	ctcagtttgc	420
tcactctgcaa	aataggtcta	ggatttcttc	caaccatttc	atgagttgtg	aagctaaggc	480
tttggttaatc	atggaaaaag	gtagacttat	gcagaaaagcc	tttctggctt	tcttatctgt	540
gggtgtctcat	ttgagtgctg	tccagtgaca	tgatcaagtc	aatgagtaaa	attttaaggg	600
attagattttt	cttgacttgt	atgtatctgt	gagatcttga	ataagtgacc	tgacatctct	660
gcttaaagaa	aaccag					676

<210> 356
 <211> 574
 <212> DNA
 <213> Homo sapien

<400> 356						
tttttttttt	tttttcagga	aaacattctc	ttactttatt	tgcatctcag	caaaggttct	60
catgtggcac	ctgactggca	tcaaaccaaa	gttcgtaggc	caacaaagat	gggccactca	120
caagcttccc	atttgtagat	ctcagtgcc	atgagtatct	gacacctgtt	cctctcttca	180
gtctcttagg	gaggcttaaa	tctgtctcag	gtgtgctaag	agtgccagcc	caaggkgttc	240
aaaagtccac	aaaactgcag	tctttgctgg	gatagtaagc	caagcagtg	ctggacagca	300
gagttctttt	cttgggcaac	agataaccag	acaggactct	aatcgtgctc	ttattcaaca	360
ttcttctgtc	tctgcctaga	ctggaataaa	aagccaatct	ctctcgtagc	acagggaagg	420
agatacaagc	tcgtttacat	gtgatagatc	taacaaaggc	atctaccgaa	gtctgggtctg	480
gatagacggc	acaggagct	cttaggtcag	cgctgctggt	tggaggacat	tcctgagtc	540
agctttgcag	cctttgtgca	acagtacttt	ccca			574

<210> 357
 <211> 393
 <212> DNA
 <213> Homo sapien

<400> 357						
tttttttttt	tttttttttt	tttttttttt	tacagaatat	aratgcttta	tcactgkact	60
taatatggkg	kcttggtcac	tatacttaaa	aatgcaccac	tcataaatat	ttaattcagc	120
aagccacaac	caaracttga	ttttatcaac	aaaaaccctt	aatataaac	ggsaaaaaag	180
atagatataa	ttattccagt	ttttttaaaa	cttaaaaarat	attccattgc	cgaatttaara	240
araarataag	tggttatatg	aaagaagggc	attcaagcac	actaaaraaa	cctgaggkaa	300
gcataatctg	tacaaaatta	aactgtcctt	tttggcattt	taacaaattt	gcaacgktct	360
tttttttctt	tttctgtttt	tttttttttt	tac			393

<210> 358
 <211> 630
 <212> DNA
 <213> Homo sapien

<400> 358

acagggtaaa	caggaggatc	cttgctctca	cggagcttac	attctagcag	gaggacaata	60
ttaatgttta	taggaaaatg	atgagtttat	gacaaaggaa	gtagatagtg	ttttacaaga	120
gcatagagta	gggaagctaa	tccagcacag	ggaggtcaca	gagacatccc	taaggaagtg	180
gagttttaaac	tgagagaagc	aagtgcctaa	actgaaggat	gtgttgaaga	agaagggaga	240
gtagaacaat	ttgggcagag	ggaacccttat	agaccctaag	gtgggaaggt	tcaaagaact	300
gaaagagagc	tagaacagct	ggagccggtc	tccggtgtaa	agaggagtca	aagagataag	360
attaaagatg	tgaagattaa	gatcttggtg	gcattcaggg	attggcactt	ctacaagaaa	420
tcactgaagg	gagtaatgtg	acattacttt	tcacttcagg	atggccattc	taactccagg	480
gggtagactg	gactaggtaa	gactggaggc	aggtagacct	cttctaaggc	ctgcgatagt	540
gaaagacaaa	aataagtggg	gaaattcagg	ggatagtga	aatcagtagg	acttaatgag	600
caagccagag	gttcctccac	aacaaccagt				630

<210> 359

<211> 620

<212> DNA

<213> Homo sapien

<400> 359

acagcattcc	aaaatataca	tctagagact	aarrgtaaat	gctctatagt	gaagaagtaa	60
taattaaaaa	atgctactaa	tatagaaaat	ttataatcag	aaaaataaat	attcagggag	120
ctcaccagaa	gaataaaagt	ctctgccagt	tattaaagga	ttactgctgg	tgaattaaat	180
atggcattcc	ccaagggaaa	tagagagatt	cttctggatt	atgttcaata	tttatttcac	240
aggattaact	gttttaggaa	cagatataaa	gcttcgccac	ggaagagatg	gacaaagcac	300
aaagacaaca	tgatacctta	ggaagcaaca	ctaccctttc	aggcataaaa	tttgagaaaa	360
tgcaacatta	tgcttcatga	ataatatgta	gaaagaaggt	ctgatgaaaa	tgacatcctt	420
aatgtaagat	aactttataa	gaattctggg	tcaaataaaa	ttctttgaag	aaaacatcca	480
aatgtcattg	acttatcaaa	tactatcttg	gcatataacc	tatgaaggca	aaactaaaca	540
aacaaaaagc	tcacaccaaa	caaaaccatc	aacttatttt	gtattctata	acatacgaga	600
ctgtaaagat	gtgacagtgt					620

<210> 360

<211> 431

<212> DNA

<213> Homo sapien

<400> 360

aaaaaaaaaa	agccagaaca	acatgtgata	gataatatga	ttggctgcac	acttccagac	60
tgatgaatga	tgaacgtgat	ggactattgt	atggagcaca	tcttcagcaa	gagggggaaa	120
tactcatcat	ttttggccag	cagttgtttg	atcaccaaac	atcatgccag	aatactcagc	180
aaaccttctt	agctcttgag	aagtcaaagt	ccgggggaat	ttattcctgg	caattttaat	240
tggactcctt	atgtgagagc	agcggctacc	cagctggggg	ggtggagcga	acccgtcact	300
agtggacatg	cagtggcaga	gctcctggta	accacctaga	ggaatacaca	ggcacatgtg	360
tgatgccaa	cgtgacacct	gtagcactca	aatttgtctt	gtttttgtct	ttcgggtgtg	420
agattcttag	t					431

<210> 361

<211> 351

<212> DNA

<213> Homo sapien

<400> 361

acactgattt	ccgatcaaaa	gaatcatcat	ctttaccttg	acttttcagg	gaattactga	60
actttcttct	cagaagatag	ggcacagcca	ttgccttgcc	ctcacttgaa	gggtctgcat	120
ttgggtcctc	tggtctcttg	ccaagtittc	cagccactcg	agggagaaat	atcgggaggt	180
ttgacttctt	ccggggcttt	cccaggggct	tcaccgtgag	ccctgcggcc	ctcagggctg	240
caatcctgga	ttcaatgtct	gaaacctcgc	tctctgcctg	ctggacttct	gaggccgtca	300
ctgccactct	gtcctccagc	tctgacagct	cctcatctgt	ggtcctgttg	t	351

<210> 362

<211> 463

<212> DNA
<213> Homo sapien

<400> 362
acttcatcag gccataatgg gtgcctcccg tgagaatcca agcacctttg gactgcgcg 60
tgtagatgag ccggctgaag atcttgcgca tgcgcggctt cagggcgaag ttcttggcgc 120
ccccggtcac agaaatgacc aggttgggtg ttttcagggtg ccagtgcctg gtcagcagct 180
cgtaaaggat ttccgcgtcc gtgtcgcagg acagacgtat atacttccct ttcttcccca 240
gtgtctcaaa ctgaatatcc ccaaaggcgt cggtaggaaa ttccttgggtg tgtttcttgt 300
agttccattt ctacttttgg ttgatctggg tgccttccat gtgctggctc tgggcatagc 360
cacacttgca cacattctcc ctgataagca cgatgggtgtg gacaggaagg aaggatttca 420
ttgagcctgc ttatggaaac tggatttgtt agcttaaata gac 463

<210> 363
<211> 653
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(653)
<223> n = A,T,C or G

<400> 363
acccccaggt ncctgnctgg catactgnga acgaccaacg acacacccaa gctcggcctc 60
ctcttggnga ttctgggtga catcttcatg aatggcaacc gtgccagwga ggctgtcctc 120
tgaggaggcac tacgcaagat gggactgcgt cctgggggtga gacatcctct ccttggagat 180
ctaacgaaac ttctcaccta tgagttgtaa agcagaaata cctgnactac agacgagtgc 240
ccaacagcaa cccccggaa gtatgagttc ctctrgggccc tccgttccta ccatgagasc 300
tagcaagatg naagtgttga gantcattgc agaggttcag aaaagagacc cntcgtgact 360
ggctctgcaca gttcatggag gctgcagatg aggccttggg tgccttggat gctgctgcag 420
ctgaggccga agcccgggct gaagcaagaa cccgcatggg aattggagat gaggctgtgt 480
ntgggcccctg gagctgggat gacattgagt ttgagctgct gacctgggat gaggaaggag 540
atthttggaga tccntgggtcc agaattccat ttaccttctg ggccagatac caccagaatg 600
cccgtccag attccctcag acctttgccc gtcccattat tggctstggt ggt 653

<210> 364
<211> 401
<212> DNA
<213> Homo sapien

<400> 364
actagaggaa agacgttaaa ccaactctact accacttgtg gaactctcaa agggtaaatg 60
acaaagccaa tgaatgactc taaaaacaat atttacattt aatggtttgt agacaataaa 120
aaaacaaggt ggatagatct agaattgtaa cattttaaga aaaccatagc atttgacaga 180
tgagaaagct caattataga tgcaaaagtt taactaaact actatagtag taaagaaata 240
catttcacac cttcatata aattcactat cttggcttga ggcaactccat aaaatgtatc 300
acgtgcatag taaatcttta tatttgctat ggcgttgac tagaggactt ggactgcaac 360
aagtggatgc gcggaaaatg aaatcttctt caatagccca g 401

<210> 365
<211> 356
<212> DNA
<213> Homo sapien

<400> 365
ccagtgtcat atttgggctt aaaatttcaa gaagggcact tcaaattggct ttgcatttgc 60
atgtttcagt gctagagcgt aggaatagac cctggcgtcc actgtgagat gttcttcagc 120
taccagagca tcaagtctct gcagcaggtc attcttgggt aaagaaatga cttccacaaa 180
ctctccatcc cctggcttgg gcttcggcct tgcgttttcg gcatcatctc cgttaatggt 240
gactgtcacg atgtgtatag tacagtttga caagcctggg tccatacaga ccgctggaga 300
acattcggca atgtcccctt tgtagccagt ttcttcttcg agctcccga gagcag 356

110

<210> 366
 <211> 1851
 <212> DNA
 <213> Homo sapien

<400> 366
 tcatcaccat tgccagcagc ggcaccgtta gtcagggttt ctgggaatcc cacatgagta 60
 cttccgtggt cttcattctt cttcaatagc cataaatctt ctagctctgg ctggctgttt 120
 tcacttcctt taagcctttg tgactcttcc tctgatgtca gctttaagtc ttgttctgga 180
 ttgctgtttt cagaagagat ttttaacatc tgtttttctt tgtagtcaga aagtaactgg 240
 caaattacat gatgatgact agaaacagca tactctctgg ccgtctttcc agatcttgag 300
 aagatacatc aacattttgc tcaagtagag ggctgactat acttgctgat ccacaacata 360
 cagcaagtat gagagcagtt cttccatata tatccagcgc atttaaattc gcttttttct 420
 tgattaaaaa ttccaccact tgctgttttt gctcatgtat accaagtagc agtgggtgtga 480
 ggccatgctt gttttttgat tccatctcag caccgtataa gagcagtgtt ttggccatta 540
 atttatcttc attgtagaca gcatagtgtg gagtgggtatt tccatactca tctggaatat 600
 ttggatcagt gccatgttcc agcaacatta acgcacattc atcttcctgg cattgtacgg 660
 cctttgtcag agctgtcctc tttttgttgt caaggacatt aagttgacat cgtctgtcca 720
 gcacgagttt tactacttct gaattcccat tggcagaggc cagatgtaga gcagtcctct 780
 tttgcttggt cctctgttc acatccgtgt ccctgagcat gacgatgaga tcctttctgg 840
 ggactttacc ccaccaggca gctctgtgga gcttgtccag atcttctcca tggacgtggt 900
 acctgggac catgaaggcg ctgtcatcgt agtctcccca agcgaccacg ttgctcttgc 960
 cgctcccctg cagcagggga agcagtggca gcaccacttg cacctcttgc tcccaagcgt 1020
 cttcacagag gagtctgtgt ggtctccaga agtgcccacg ttgctcttgc cgctcccctt 1080
 gtccatccag ggaggaagaa atgcaggaaa tgaaagatgc atgcacgatg gtatactcct 1140
 cagccatcaa acttctggac agcaggtcac ttccagcaag gtggagaaaag ctgtccaccc 1200
 acagaggatg agatccagaa accacaatat ccattcacaa acaaacactt ttcagccaga 1260
 cacaggtagt gaaatcatgt catctgcggc aacatgggtg aacctacca atcacacatc 1320
 aagagatgaa gacactgcag tatatctgca caacgtaata ctcttcatcc ataacaaaat 1380
 aatataattt tcctctggag ccatatggat gaactatgaa ggaagaactc cccgaagaag 1440
 ccagtgcgag agaagccaca ctgaagctct gtcctcagcc atcagcgcca cggacaggat 1500
 tgtgtttctt cccagtgat gcagcctcaa gttatcccga agctgccgca gcacacgggtg 1560
 gtccttgaga aacaccccag ctcttccggg ctaacacagg caagtcaata aatgtgataa 1620
 tcacataaac agaattaaaa gcaaagtcac ataagcatct caacagacac agaaaaggca 1680
 tttgacaaaa tccagcatcc ttgtatttat tggtgcagtt ctgagaggaa atgcttctaa 1740
 cttttcccca tttagtatta tgttggctgt gggctgttca taggtggttt ttattacttt 1800
 aaggtagtgc cttctatgc ctgttttgct gagggtttta attctcgtgc c 1851

<210> 367
 <211> 668
 <212> DNA
 <213> Homo sapien

<400> 367
 cttgagcttc caaataygga agactggccc ttacacasgt caatgttaaa atgaatgcat 60
 ttcagtattt tgaagataaa attrgtagat ctataccttg ttttttgatt cgatatcagc 120
 accrtataag agcagtgcct tggccattaa tttatcttcc attrtagaca gcrtagtgga 180
 gagtgggtatt tccatactca tctggaatat ttggatcagt gccatgttcc agcaacatta 240
 acgcacattc atcttcctgg cattgtacgg cctgtcagta ttagacccaa aaacaaatta 300
 catatcttag gaattcaaaa taacattcca cagctttcac caactagtta tatttaaagg 360
 agaaaactca tttttatgcc atgtattgaa atcaaaccca cctcatgctg atatagttgg 420
 ctactgcata cctttatcag agctgtcctc tttttgttgt caaggacatt aagttgacat 480
 cgtctgtcca gcaggagttt tactacttct gaattcccat tggcagaggc cagatgtaga 540
 gcagtcctat gagagtgaga agacttttta ggaaattgta gtgcactagc tacagccata 600
 gcaatgattc atgtaactgc aaacactgaa tagcctgcta ttactctgcc ttcaaaaaaa 660
 aaaaaaaa 668

<210> 368
 <211> 1512
 <212> DNA
 <213> Homo sapien

<400> 368

gggtcgccca	ggggsgcgt	gggctttcct	cggtggtgtg	tgggttttcc	ctgggtgggg	60
tgggtctggc	trgaatcccc	tgctggggtt	ggcaggtttt	ggctgggatt	gacttttytc	120
ttcaaacaga	ttggaaaccc	ggagttacct	gctagttggt	gaaactgggt	ggtagacgcg	180
atctgttggc	tactactggc	ttctcctggc	tgtaaaaagc	agatggtggt	tgaggttgat	240
tccatgccgg	ctgcttcttc	tgtgaagaag	ccatttggtc	tcaggagcaa	gatgggcaag	300
tggtgctgcc	gttgcttccc	ctgctgcagg	gagagcggca	agagcaacgt	gggcacttct	360
ggagaccacg	acgactctgc	tatgaagaca	ctcaggagca	agatgggcaa	gtggtgccgc	420
cactgcttcc	cctgctgcag	ggggagtggc	aagagcaacg	tgggcgcttc	tggagaccac	480
gacgaytctg	ctatgaagac	actcaggaac	aagatgggca	agtgggtgctg	ccactgcttc	540
ccctgctgca	gggggagcrg	caagagcaag	gtgggcgctt	ggggagacta	cgatgacagt	600
gccttcatgg	agcccaggta	ccacgtccgt	ggagaagatc	tggacaagct	ccacagagct	660
gcttggtggg	gtaaaagtccc	cagaaaggat	ctcatcgtca	tgctcaggga	cactgacgtg	720
aacaagaagg	acaagcaaaa	gaggactgct	ctacatctgg	cctctgccaa	tgggaattca	780
gaagtagtaa	aactcstgct	ggacagacga	tgtcaactta	atgtccttga	caacaaaaag	840
aggacagctc	tgayaaaggc	cgtacaatgc	caggaagatg	aatgtgcggt	aatgttgctg	900
gaacatggca	ctgatccaaa	tattccagat	gagtatggaa	ataccactct	rcactaygct	960
rtctayaatg	aagataaatt	aatggccaaa	gcactgctct	tatayggtgc	tgatatcgaa	1020
tcaaaaaaca	aggtatagat	ctactaattt	tatcttcaaa	atactgaaat	gcattcattt	1080
taacattgac	gtgtgtaagg	gccagtcttc	cgtatttgga	agctcaagca	taacttgaat	1140
gaaaatattt	tgaaatgacc	taattatctm	agactttatt	ttaaattattg	ttattttcaa	1200
agaagcatta	gagggtacag	tttttttttt	ttaaattgcac	ttctggtaaa	tacttttggt	1260
gaaaacactg	aatttgtaaa	aggtaatact	tactattttt	caatttttcc	ctcctaggat	1320
ttttttcccc	taatgaatgt	aagatggcaa	aatttgccct	gaaatagggt	ttacatgaaa	1380
actccaagaa	aagttaaaca	tgtttcagtg	aatagagatc	ctgctccttt	ggcaagttcc	1440
taaaaaacag	taatagatac	gaggtgatgc	gcctgtcagt	ggcaagggtt	aagatatttc	1500
tgatctcgtg	cc					1512

<210> 369

<211> 1853

<212> DNA

<213> Homo sapien

<400> 369

gggtcgccca	ggggsgcgt	gggctttcct	cggtggtgtg	tgggttttcc	ctgggtgggg	60
tgggtctggc	trgaatcccc	tgctggggtt	ggcaggtttt	ggctgggatt	gacttttytc	120
ttcaaacaga	ttggaaaccc	ggagttacct	gctagttggt	gaaactgggt	ggtagacgcg	180
atctgttggc	tactactggc	ttctcctggc	tgtaaaaagc	agatggtggt	tgaggttgat	240
tccatgccgg	ctgcttcttc	tgtgaagaag	ccatttggtc	tcaggagcaa	gatgggcaag	300
tggtgctgcc	gttgcttccc	ctgctgcagg	gagagcggca	agagcaacgt	gggcacttct	360
ggagaccacg	acgactctgc	tatgaagaca	ctcaggagca	agatgggcaa	gtggtgccgc	420
cactgcttcc	cctgctgcag	ggggagtggc	aagagcaacg	tgggcgcttc	tggagaccac	480
gacgaytctg	ctatgaagac	actcaggaac	aagatgggca	agtgggtgctg	ccactgcttc	540
ccctgctgca	gggggagcrg	caagagcaag	gtgggcgctt	ggggagacta	cgatgacagy	600
gccttcatgg	akcccaggta	ccacgtccrt	ggagaagatc	tggacaagct	ccacagagct	660
gccttggtggg	gtaaaagtccc	cagaaaggat	ctcatcgtca	tgctcaggga	cackgaygtg	720
aacaagargg	acaagcaaaa	gaggactgct	ctacatctgg	cctctgccaa	tgggaattca	780
gaagtagtaa	aactcstgct	ggacagacga	tgtcaactta	atgtccttga	caacaaaaag	840
aggacagctc	tgayaaaggc	cgtacaatgc	caggaagatg	aatgtgcggt	aatgttgctg	900
gaacatggca	ctgatccaaa	tattccagat	gagtatggaa	ataccactct	rcactaygct	960
rtctayaatg	aagataaatt	aatggccaaa	gcactgctct	tatayggtgc	tgatatcgaa	1020
tcaaaaaaca	agcatggcct	cacaccactg	ytacttggtt	tacatgagca	aaaacagcaa	1080
gtsgtgaaat	ttttaatyaa	gaaaaaagcg	aatttaaaat	gcrctggata	gatatggaag	1140
ractgctctc	atacttgctg	tatgttggtg	atcagcaagt	atagtacagg	ytctacttga	1200
gcaaaatrtt	gatgtatctt	ctcaagatct	ggaaagacgg	ccagagagta	tgctgtttct	1260
agtcacatct	atgtaatttg	ccagttactt	tctgactaca	aagaaaaaca	gatgttaaaa	1320
atctcttctg	aaaacagcaa	tccagaacaa	gacttaaaagc	tgacatcaga	ggaagagtca	1380
caaaggctta	aaggaagtga	aaacagccag	ccagaggcat	ggaaactttt	aaattttaaac	1440
ttttggttta	atgttttttt	tttttgccct	aataatatta	gatagtccca	aatgaaatwa	1500
cctatgagac	taggctttga	gaatcaatag	attctttttt	taagaatctt	ttggctagga	1560
gcggtgtctc	acgcctgtaa	ttccagcacc	ttgagaggct	gaggtgggca	gatcacgaga	1620

112

tcaggagatc	gagaccatcc	tggttaaacac	gggtgaaaccc	catctctact	aaaaatacaa	1680
aaacttagct	gggtgtggtg	gcgggtgcct	gtagtcccag	ctactcagga	rgctgaggca	1740
ggagaatggc	atgaaccccg	gaggtggagg	ttgcagttag	ccgagatccg	ccactacact	1800
ccagcctggg	tgacagagca	agactctgtc	tcaaaaaaaaa	aaaaaaaaaaa	aaa	1853

<210> 370

<211> 2184

<212> DNA

<213> Homo sapien

<400> 370

ggcacgagaa	ttaaaaccct	cagcaaaaaca	ggcatagaag	ggacatacct	ttaaagtaata	60
aaaaccacct	atgacaagcc	cacagccaac	ataataactaa	atggggaaaa	gttagaagca	120
tttcctctga	gaactgcaac	aataaatata	aggatgctgg	attttgtcaa	atgccttttc	180
tgtgtctggt	gagatgctta	tgtgactttg	cttttaattc	tgtttatgtg	attatcacat	240
ttattgactt	gcctgtgtta	gaccggaaga	gctgggggtgt	ttctcaggag	ccaccgtgtg	300
ctgcggcagc	ttcgggataa	cttgaggctg	catcactggg	gaagaaacac	aytcctgtcc	360
gtggcgctga	tggttgagga	cagagcttca	gtgtggcttc	tctgcgactg	gcttcttcgg	420
ggagtctctc	cttcatagtt	catccatatg	gctccagagg	aaaattatat	tattttgtta	480
tggtatgaaga	gtattacgtt	gtgcagatat	actgcagtgt	cttcatctct	tgatgtgtga	540
ttgggtaggt	tccaccatgt	tgccgcagat	gacatgattt	cagtacctgt	gtctggctga	600
aaagtgtttg	tttgtgaatg	gatattgtgg	tttctggatc	tcatcctctg	tggggtggaca	660
gctttctcca	ccttgctgga	agtgacctgc	tgtccagaag	tttgatggct	gaggagtata	720
ccatcgtgca	tgcatctttc	atttctctga	tttcttctc	cctggatgga	cagggggagc	780
ggcaagagca	acgtgggcac	ttctggagac	cacaacgact	cctctgtgaa	gacgcttggg	840
agcaagaggt	gcaagtgggt	ctgccactgc	ttccctgtgt	gcaggggagc	ggcaagagca	900
acgtggctgc	ttggggagac	tacgatgaca	gcgccttcat	ggatcccagg	taccacgtcc	960
atggagaaga	tctggacaag	ctccacagag	ctgectgggt	gggtaaagtc	cccagaaagg	1020
atctcatcgt	catgctcagg	gacacggatg	tgaacaagag	ggacaagcaa	aagaggactg	1080
ctctacatct	ggcctctgcc	aatgggaatt	cagaagtagt	aaaactcgtg	ctggacagag	1140
gatgtcaact	taatgtcctt	gacaacaaaa	agaggacagc	tctgacaaag	gccgtacaat	1200
gccaggaaga	tgaatgtgcg	ttaatgttgc	tggaacatgg	cactgatcca	aatattccag	1260
atgagtatgg	aaataccact	ctacactatg	ctgtctacaa	tgaagataaa	ttaatggcca	1320
aagcactgct	cttatacggg	gctgatatcg	aatcaaaaaa	caagcatggc	ctcacaccac	1380
tgctacttgg	tatacatgag	caaaaacagc	aagtgggtgaa	atttttaatc	aagaaaaaag	1440
cgaattttaa	tgcgctggat	agatatggaa	gaactgctct	catacttgct	gtatgtttgtg	1500
gatcagcaag	tatagtcagc	cctctacttg	agcaaaatgt	tgatgtatct	tctcaagatc	1560
tggaagagcg	gccagagagt	atgctgtttc	tagtcatcat	catgtaattt	gccagttact	1620
ttctgactac	aaagaaaaac	agatgtttaa	aatctcttct	gaaaacagca	atccagaaca	1680
agacttaaag	ctgacatcag	aggaagagtc	acaaaggctt	aaaggaagtg	aaaacagcca	1740
gccagaggca	tggaactttt	taaattttaa	cttttggttt	aatgtttttt	ttttttgcct	1800
taataatatt	agatagtcct	aaatgaaatw	acctatgaga	ctaggctttg	agaatcaata	1860
gattcttttt	ttaagaatct	tttggctagg	agcgggtgtc	cacgcctgta	attccagcac	1920
cttgagaggg	tgaggtgggc	agatcacgag	atcaggagat	cgagaccatc	ctggctaaca	1980
cggtgaaacc	ccatctctac	taaaaatata	aaaacttagc	tggtgtgtgt	ggcgggtgcc	2040
tgtagtccca	gctactcagg	argctgaggc	aggagaatgg	catgaacccg	ggaggtggag	2100
gttgacagtga	gccgagatcc	gccactacac	tccagcctgg	gtgacagagc	aagactctgt	2160
ctcaaaaaaa	aaaaaaaaaa	aaaa				2184

<210> 371

<211> 1855

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(1855)

<223> n = A,T,C or G

<400> 371

tgacgcacgc	ggccagtgtc	tgtgccacgt	acactgacgc	cccctgagat	gtgcacgcgc	60
cacgcgcacg	ttgcacgcgc	ggcagcggct	tggtgtgctt	gtaacggctt	gcacgcgcac	120

gccgcccccg	cataaccgtc	agactggcct	gtaacggctt	gcaggcgcac	gccgcacgcg	180
cgtaacggct	tggctgccct	gtaacggctt	gcacgtgcat	gctgcacgcg	cgttaacggc	240
ttggctggca	tgtagccgt	tggcttggct	ttgcattytt	tgctkggctk	ggcgttgkty	300
tcttgattg	acgcttcctc	cttgatkgac	cgtttcctcc	ttggatkgac	gtttcytyty	360
tcgcgttcct	ttgctggact	tgacctttty	tctgctgggt	ttggcattcc	tttgggggtg	420
gctgggtgtt	ttctccgggg	gggktkgccc	ttcctggggg	gggcgtgggk	cgccccagg	480
gggcgtgggc	tttccccggg	tgggtgtggg	ttttcctggg	gtgggggtggg	ctgtgctggg	540
atccccctgc	tgggggttggc	agggattgac	ttttttcttc	aaacagattg	gaaacccgga	600
gtaacntgct	agttggtgaa	actggttggg	agacgcgatc	tgctggtact	actgtttctc	660
ctggctgtta	aaagcagatg	gtggctgagg	ttgattcaat	gccggctgct	tcttctgtga	720
agaagccatt	tgggtctcagg	agcaagatgg	gcaagtgggt	cgccactgct	tccccctgct	780
caggggggagc	ggcaagagca	acgtgggcac	ttctggagac	cacaacgact	cctctgtgaa	840
gacgcttggg	agcaagagg	gcaagtgggt	ctgcccactg	cttccccctgc	tgcaggggag	900
cggaagagc	aacgtggkcg	cttggggaga	ctacgatgac	agcgccttca	tggakcccag	960
gtaccacgtc	crtggagaag	atctggacaa	gctccacaga	gctgcctggt	ggggtaaagt	1020
ccccagaaag	gatctcatcg	tcatgctcag	ggacactgay	gtgaacaaga	rggacaagca	1080
aaagaggact	gctctacatc	tggcctctgc	caatgggaat	tcagaagtag	taaaaactcgt	1140
gctggacaga	cgatgtcaac	ttaatgtcct	tgacaacaaa	aagaggacag	ctctgacaaa	1200
ggccgtacaa	tgccaggaag	atgaatgtgc	gttaatgttg	ctggaacatg	gcactgatcc	1260
aaatattcca	gatgagtatg	gaaataccac	tctacactat	gctgtctaca	atgaagataa	1320
attaatggcc	aaagcactgc	tcttatacgg	tgctgatatc	gaatcaaaaa	acaaggtata	1380
gatctactaa	ttttatcttc	aaaatactga	aatgcattca	ttttaacatt	gacgtgtgta	1440
agggccagtc	ttccgtattt	ggaagctcaa	gcataacttg	aatgaaaata	ttttgaaatg	1500
acctaattat	ctaagacttt	attttaaaata	ttgttatttt	caaagaagca	ttagagggtg	1560
cagttttttt	tttttaaatg	cacttctggt	aaatactttt	gttgaaaaca	ctgaatttgt	1620
aaaaggtaat	acttactatt	tttcaatttt	tccctcctag	gatttttttc	ccctaataa	1680
tgtaagatgg	caaaatttgc	cctgaaatag	gttttacatg	aaaactccaa	gaaaagttaa	1740
acatgtttca	gtgaatagag	atcctggtcc	tttggcaagt	tcctaaaaaa	cagtaataga	1800
tacgaggtga	tgcgcctgtc	agtggcaagg	tttaagatat	ttctgatctc	gtgcc	1855

<210> 372

<211> 1059

<212> DNA

<213> Homo sapien

<400> 372

gcaacgtggg	cacttctgga	gaccacaacg	actcctctgt	gaagacgctt	gggagcaaga	60
ggtgcaagtg	gtgctgcccc	ctgcttcccc	tgctgcaggg	gagcggcaag	agcaacgtgg	120
gcgcttgrgg	agactmcgat	gacagygcct	tcatggagcc	caggtaccac	gtccgtggag	180
aagatctgga	caagctccac	agagctgccc	tgggtgggta	aagtccccag	aaaggatctc	240
atcgtcatgc	tcagggacac	tgaygtgaac	aagarggaca	agcaaaagag	gactgctcta	300
catctggcct	ctgccaatgg	gaattcagaa	gtagtaaaac	tctgtctgga	cagacgatgt	360
caacttaatg	tccttgacaa	caaaaagagg	acagctctga	yaaaggccgt	acaatgccag	420
gaagatgaat	gtgcgttaat	gttgctggaa	catggcactg	atccaaatat	tccagatgag	480
tatggaaata	ccactctrca	ctaygctrct	tayaatgaag	ataaattaat	ggccaaagca	540
ctgctcttat	ayggtgctga	tatcgaatca	aaaaacaagg	tatagatcta	ctaattttat	600
cttcaaaaata	ctgaaatgca	ttcattttta	cattgacgtg	tgtaagggcc	agtcttccgt	660
atgttggaagc	tcaagcataa	cttgaatgaa	aatattttga	aatgacctaa	ttatctaaga	720
ctttattttta	aatattgtta	ttttcaaaga	agcattagag	ggtacagttt	ttttttttta	780
aatgcacttc	tggtaaatac	ttttgttgaa	aacactgaat	ttgtaaaagg	taatacttac	840
tattttttcaa	tttttccctc	ctaggatttt	tttcccttaa	tgaatgtaag	atggcaaaat	900
ttgccctgaa	ataggtttta	catgaaaact	ccaagaaaag	ttaaactatg	ttcagtgaat	960
agagatcctg	ctcctttggc	aagttcctaa	aaaacagtaa	tagatacgag	gtgatgcgcc	1020
tgctcagtggc	aaggtttaag	atattttctga	tctcgtgccc			1059

<210> 373

<211> 1155

<212> DNA

<213> Homo sapien

<400> 373

atgggtggttg	aggttgattc	catgccggct	gcctcttctg	tgaagaagcc	atttggctctc	60
-------------	------------	------------	------------	------------	-------------	----

114

aggagcaaga	tgggcaagt	gtgctgccgt	tgcttcccct	gctgcaggga	gagcggcaag	120
agcaacgtgg	gcacttctgg	agaccacgac	gactctgcta	tgaagacact	caggagcaag	180
atgggcaagt	ggtgccgcca	ctgcttcccc	tgctgcagg	ggagtggcaa	gagcaacgtg	240
ggcgcttctg	gagaccacga	cgactctgct	atgaagacac	tcaggaacaa	gatgggcaag	300
tggtgctgcc	actgcttccc	ctgctgcagg	gggagcggca	agagcaaggt	gggcgcttgg	360
ggagactacg	atgacagtgc	cttcattggag	cccaggtacc	acgtccgtgg	agaagatctg	420
gacaagctcc	acagagctgc	ctggtgggg	aaagtcccca	gaaaggatct	catcgtcatg	480
ctcagggaca	ctgacgtgaa	caagaaggac	aagcaaaaga	ggactgctct	acatctggcc	540
tctgccaatg	ggaattcaga	agtagtaaaa	ctcctgctgg	acagacgatg	tcaacttaat	600
gtccttgaca	acaaaaagag	gacagctctg	ataaaggccg	tacaatgcca	ggaagatgaa	660
tgtgcgttaa	tgttgctgga	acatggcact	gatccaaata	ttccagatga	gtatggaaat	720
accactctgc	actacgttat	ctataatgaa	gataaattaa	tggccaaagc	actgctctta	780
tatggtgctg	atatcgaatc	aaaaaacaag	catggcctca	caccactgtt	acttggtgta	840
catgagcaaa	aacagcaagt	cgtgaaat	ttaatcaaga	aaaaagcgaa	tttaaatgca	900
ctggatagat	atggaaggac	tgctctcata	cttgctgtat	gttgtggatc	agcaagtata	960
gtcagccttc	tacttgagca	aaatattgat	gtatcttctc	aagatctatc	tggacagacg	1020
gccagagagt	atgctgtttc	tagtcatcat	catgtaattt	gccagttact	ttctgactac	1080
aaagaaaaac	agatgctaaa	aatctcttct	gaaaacagca	atccagaaaa	tgtctcaaga	1140
accagaaata	aataa					1155

<210> 374

<211> 2000

<212> DNA

<213> Homo sapien

<400> 374

atggtggttg	aggttgattc	catgccggct	gcctcttctg	tgaagaagcc	atttgggtctc	60
aggagcaaga	tgggcaagt	gtgctgccgt	tgcttcccct	gctgcaggga	gagcggcaag	120
agcaacgtgg	gcacttctgg	agaccacgac	gactctgcta	tgaagacact	caggagcaag	180
atgggcaagt	ggtgccgcca	ctgcttcccc	tgctgcagg	ggagtggcaa	gagcaacgtg	240
ggcgcttctg	gagaccacga	cgactctgct	atgaagacac	tcaggaacaa	gatgggcaag	300
tggtgctgcc	actgcttccc	ctgctgcagg	gggagcggca	agagcaaggt	gggcgcttgg	360
ggagactacg	atgacagtgc	cttcattggag	cccaggtacc	acgtccgtgg	agaagatctg	420
gacaagctcc	acagagctgc	ctggtgggg	aaagtcccca	gaaaggatct	catcgtcatg	480
ctcagggaca	ctgacgtgaa	caagaaggac	aagcaaaaga	ggactgctct	acatctggcc	540
tctgccaatg	ggaattcaga	agtagtaaaa	ctcctgctgg	acagacgatg	tcaacttaat	600
gtccttgaca	acaaaaagag	gacagctctg	ataaaggccg	tacaatgcca	ggaagatgaa	660
tgtgcgttaa	tgttgctgga	acatggcact	gatccaaata	ttccagatga	gtatggaaat	720
accactctgc	actacgttat	ctataatgaa	gataaattaa	tggccaaagc	actgctctta	780
tatggtgctg	atatcgaatc	aaaaaacaag	catggcctca	caccactgtt	acttggtgta	840
catgagcaaa	aacagcaagt	cgtgaaat	ttaatcaaga	aaaaagcgaa	tttaaatgca	900
ctggatagat	atggaaggac	tgctctcata	cttgctgtat	gttgtggatc	agcaagtata	960
gtcagccttc	tacttgagca	aaatattgat	gtatcttctc	aagatctatc	tggacagacg	1020
gccagagagt	atgctgtttc	tagtcatcat	catgtaattt	gccagttact	ttctgactac	1080
aaagaaaaac	agatgctaaa	aatctcttct	gaaaacagca	atccagaaca	agacttaaag	1140
ctgacatcag	aggaagagtc	acaaagggtc	aaaggcagtg	aaaatagcca	gccagagaaa	1200
atgtctcaag	aaccagaaat	aaataaggat	ggtgatagag	aggttgaaga	agaaatgaag	1260
aagcatgaaa	gtaataatgt	gggattacta	gaaaacctga	ctaattggtg	cactgctggc	1320
aatggtgata	atggattaat	tcctcaaagg	aagagcagaa	cacctgaaaa	tcagcaattt	1380
cctgacaacg	aaagtgaaga	gtatcacaga	atttgcgaat	tagtttctga	ctacaaagaa	1440
aaacagatgc	caaaatactc	ttctgaaaac	agcaaccag	aacaagactt	aaagctgaca	1500
tcagaggaag	agtcacaaa	gcttgagggc	agtgaatg	gccagccaga	gctagaaaat	1560
tttatggcta	tcgaagaaat	gaagaagcac	ggaagtactc	atgtcggatt	cccagaaaaac	1620
ctgactaatg	gtgccactgc	tggcaatggt	gatgatggat	taattcctcc	aaggaagagc	1680
agaacacctg	aaagccagca	atttcctgac	actgagaatg	aagagtatca	cagtgcagaa	1740
caaaatgata	ctcagaagca	attttgtgaa	gaacagaaca	ctggaatatt	acacgttagg	1800
attctgattc	atgaagaaaa	gcagatagaa	gtggttgaaa	aaatgaattc	tgagctttct	1860
cttagttgta	agaaagaaaa	agacatcttg	catgaaaata	gtacgttgcg	ggaagaaatt	1920
gccatgctaa	gactggagct	agacacaatg	aaacatcaga	gccagctaaa	aaaaaaaaaa	1980
aaaaaaaaaa	aaaaaaaaaa					2000

<210> 375

<211> 2040
 <212> DNA
 <213> Homo sapien

<400> 375
 atggtggttg aggttgattc catgccggct gcctcttctg tgaagaagcc atttgggtctc 60
 aggagcaaga tgggcaagtg gtgctgccgt tgcctccctt gctgcaggga gagcggaag 120
 agcaacgtgg gcacttctgg agaccacgac gactctgcta tgaagacact caggagcaag 180
 atgggcaagt ggtgccgcca ctgcttcccc tgctgcaggg ggagtggcaa gagcaacgtg 240
 ggcgcttctg gagaccacga cgactctgct atgaagacac tcaggaacaa gatgggcaag 300
 tgggtgctgcc actgcttccc ctgctgcagg gggagcggca agagcaaggt gggcgcttgg 360
 ggagactacg atgacagtgc cttcatggag cccagggtacc acgtccgtgg agaagatctg 420
 gacaagctcc acagagctgc ctgggtgggt aaagtcccca gaaaggatct catcgctatg 480
 ctcagggaca ctgacgtgaa caagaaggac aagcaaaaaga ggactgctct acatctggcc 540
 tctgccaatg ggaattcaga agtaagtaaaa ctcctgctgg acagacgatg tcaacttaat 600
 gtccttgaca acaaaaagag gacagctctg ataaaggccg tacaatgcca ggaagatgaa 660
 tgtgcgttaa tgttgctgga acatggcact gatccaaata ttccagatga gtatggaaat 720
 accactctgc actacgctat ctataatgaa gataaattaa tggccaaagc actgctctta 780
 tatggtgctg atatcgaatc aaaaaacaag catggcctca caccactgtt acttgggtga 840
 catgagcaaa aacagcaagt cgtgaaattt ttaatcaaga aaaaagcgaa tttaaatgca 900
 ctggatagat atggaaggac tgctctcata cttgctgtat gttgtggatc agcaagtata 960
 gtcagccttc tacttgagca aaatattgat gtatcttctc aagatctatc tggacagacg 1020
 gccagagagt atgctgtttc tagtcatcat catgtaattt gccagttact ttctgactac 1080
 aaagaaaaac agatgctaaa aatctcttct gaaaacagca atccagaaca agacttaaaag 1140
 ctgacatcag aggaagagtc acaaaggctt aaaggcagtg aaaatagcca gccagagaaa 1200
 atgtctcaag aaccagaaat aaataaggat ggtgatagag aggttgaaga agaaatgaag 1260
 aagcatgaaa gtaataatgt gggattacta gaaaacctga ctaatggtgt cactgctggc 1320
 aatggtgata atggattaat tcctcaaagg aagagcagaa cacctgaaaa tcagcaattt 1380
 cctgacaacg aaagtgaaga gtatcacaga atttgcgaaat tagtttctga ctacaaagaa 1440
 aaacagatgc caaaatactc ttctgaaaaa agcaacctag aacaagactt aaagctgaca 1500
 tcagaggaag agtcacaaaag gcttgagggc agtgaaaatg gccagccaga gaaaagatct 1560
 caagaaccag aaataaataa ggatggtgat agagagctag aaaattttat ggctatcgaa 1620
 gaaatgaaga agcacggaag tactcatgtc ggattcccag aaaacctgac taatggtgcc 1680
 actgctggca atggtgatga tggattaatt cctccaagga agagcagaac acctgaaagc 1740
 cagcaatttc ctgacactga gaatgaagag tatcacagtg acgaacaaaa tgatactcag 1800
 aagcaatttt gtgaagaaca gaacactgga atattacacg atgagattct gattcatgaa 1860
 gaaaagcaga tagaagtggg tgaaaaaatg aattctgagc tttctcttag ttgtaagaaa 1920
 gaaaaagaca tcttgcataa aaatagtacg ttgcgggaag aaattgccat gctaagactg 1980
 gagctagaca caatgaaaca tcagagccag ctaaaaaaa aaaaaaaaaa aaaaaaaaaa 2040

<210> 376
 <211> 329
 <212> PRT
 <213> Homo sapien

<400> 376
 Met Asp Ile Val Val Ser Gly Ser His Pro Leu Trp Val Asp Ser Phe
 1 5 10 15
 Leu His Leu Ala Gly Ser Asp Leu Leu Ser Arg Ser Leu Met Ala Glu
 20 25 30
 Glu Tyr Thr Ile Val His Ala Ser Phe Ile Ser Cys Ile Ser Ser Ser
 35 40 45
 Leu Asp Gly Gln Gly Glu Arg Gln Glu Gln Arg Gly His Phe Trp Arg
 50 55 60
 Pro Gln Arg Leu Leu Cys Glu Asp Ala Trp Glu Gln Glu Val Gln Val
 65 70 75 80
 Val Leu Pro Leu Leu Pro Leu Leu Gln Gly Ser Gly Lys Ser Asn Val
 85 90 95
 Val Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe Met Asp Pro Arg Tyr
 100 105 110
 His Val His Gly Glu Asp Leu Asp Lys Leu His Arg Ala Ala Trp Trp
 115 120 125

116

Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met Leu Arg Asp Thr Asp
 130 135 140
 Val Asn Lys Arg Asp Lys Gln Lys Arg Thr Ala Leu His Leu Ala Ser
 145 150 155 160
 Ala Asn Gly Asn Ser Glu Val Val Lys Leu Val Leu Asp Arg Arg Cys
 165 170 175
 Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr Ala Leu Thr Lys Ala
 180 185 190
 Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met Leu Leu Glu His Gly
 195 200 205
 Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr
 210 215 220
 Ala Val Tyr Asn Glu Asp Lys Leu Met Ala Lys Ala Leu Leu Leu Tyr
 225 230 235 240
 Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly Leu Thr Pro Leu Leu
 245 250 255
 Leu Gly Ile His Glu Gln Lys Gln Gln Val Val Lys Phe Leu Ile Lys
 260 265 270
 Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr Gly Arg Thr Ala Leu
 275 280 285
 Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile Val Ser Pro Leu Leu
 290 295 300
 Glu Gln Asn Val Asp Val Ser Ser Gln Asp Leu Glu Arg Arg Pro Glu
 305 310 315 320
 Ser Met Leu Phe Leu Val Ile Ile Met
 325

<210> 377

<211> 148

<212> PRT

<213> Homo sapien

<220>

<221> VARIANT

<222> (1)...(148)

<223> Xaa = Any Amino Acid

<400> 377

Met Thr Xaa Pro Ser Trp Ser Pro Gly Thr Thr Ser Val Glu Lys Ile
 1 5 10 15
 Trp Thr Ser Ser Thr Glu Leu Pro Trp Trp Gly Lys Val Pro Arg Lys
 20 25 30
 Asp Leu Ile Val Met Leu Arg Asp Thr Asp Val Asn Lys Xaa Asp Lys
 35 40 45
 Gln Lys Arg Thr Ala Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu
 50 55 60
 Val Val Lys Leu Xaa Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp
 65 70 75 80
 Asn Lys Lys Arg Thr Ala Leu Xaa Lys Ala Val Gln Cys Gln Glu Asp
 85 90 95
 Glu Cys Ala Leu Met Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro
 100 105 110
 Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr Ala Xaa Tyr Asn Glu Asp
 115 120 125
 Lys Leu Met Ala Lys Ala Leu Leu Tyr Gly Ala Asp Ile Glu Ser
 130 135 140
 Lys Asn Lys Val
 145

<210> 378

<211> 1719

<212> PRT

<213> Homo sapien

<400> 378

Met	Val	Val	Glu	Val	Asp	Ser	Met	Pro	Ala	Ala	Ser	Ser	Val	Lys	Lys
1				5					10					15	
Pro	Phe	Gly	Leu	Arg	Ser	Lys	Met	Gly	Lys	Trp	Cys	Cys	Arg	Cys	Phe
			20					25					30		
Pro	Cys	Cys	Arg	Glu	Ser	Gly	Lys	Ser	Asn	Val	Gly	Thr	Ser	Gly	Asp
		35					40					45			
His	Asp	Asp	Ser	Ala	Met	Lys	Thr	Leu	Arg	Ser	Lys	Met	Gly	Lys	Trp
	50					55					60				
Cys	Arg	His	Cys	Phe	Pro	Cys	Cys	Arg	Gly	Ser	Gly	Lys	Ser	Asn	Val
65					70					75					80
Gly	Ala	Ser	Gly	Asp	His	Asp	Asp	Ser	Ala	Met	Lys	Thr	Leu	Arg	Asn
				85					90					95	
Lys	Met	Gly	Lys	Trp	Cys	Cys	His	Cys	Phe	Pro	Cys	Cys	Arg	Gly	Ser
			100					105					110		
Gly	Lys	Ser	Lys	Val	Gly	Ala	Trp	Gly	Asp	Tyr	Asp	Asp	Ser	Ala	Phe
			115					120				125			
Met	Glu	Pro	Arg	Tyr	His	Val	Arg	Gly	Glu	Asp	Leu	Asp	Lys	Leu	His
	130					135					140				
Arg	Ala	Ala	Trp	Trp	Gly	Lys	Val	Pro	Arg	Lys	Asp	Leu	Ile	Val	Met
145					150					155					160
Leu	Arg	Asp	Thr	Asp	Val	Asn	Lys	Lys	Asp	Lys	Gln	Lys	Arg	Thr	Ala
				165					170					175	
Leu	His	Leu	Ala	Ser	Ala	Asn	Gly	Asn	Ser	Glu	Val	Val	Lys	Leu	Leu
			180					185					190		
Leu	Asp	Arg	Arg	Cys	Gln	Leu	Asn	Val	Leu	Asp	Asn	Lys	Lys	Arg	Thr
		195					200					205			
Ala	Leu	Ile	Lys	Ala	Val	Gln	Cys	Gln	Glu	Asp	Glu	Cys	Ala	Leu	Met
	210					215					220				
Leu	Leu	Glu	His	Gly	Thr	Asp	Pro	Asn	Ile	Pro	Asp	Glu	Tyr	Gly	Asn
225					230					235					240
Thr	Thr	Leu	His	Tyr	Ala	Ile	Tyr	Asn	Glu	Asp	Lys	Leu	Met	Ala	Lys
				245					250					255	
Ala	Leu	Leu	Leu	Tyr	Gly	Ala	Asp	Ile	Glu	Ser	Lys	Asn	Lys	His	Gly
			260					265					270		
Leu	Thr	Pro	Leu	Leu	Leu	Gly	Val	His	Glu	Gln	Lys	Gln	Gln	Val	Val
		275					280					285			
Lys	Phe	Leu	Ile	Lys	Lys	Lys	Ala	Asn	Leu	Asn	Ala	Leu	Asp	Arg	Tyr
	290					295					300				
Gly	Arg	Thr	Ala	Leu	Ile	Leu	Ala	Val	Cys	Cys	Gly	Ser	Ala	Ser	Ile
305					310					315					320
Val	Ser	Leu	Leu	Leu	Glu	Gln	Asn	Ile	Asp	Val	Ser	Ser	Gln	Asp	Leu
				325					330					335	
Ser	Gly	Gln	Thr	Ala	Arg	Glu	Tyr	Ala	Val	Ser	Ser	His	His	His	Val
			340					345					350		
Ile	Cys	Gln	Leu	Leu	Ser	Asp	Tyr	Lys	Glu	Lys	Gln	Met	Leu	Lys	Ile
	355						360					365			
Ser	Ser	Glu	Asn	Ser	Asn	Pro	Glu	Asn	Val	Ser	Arg	Thr	Arg	Asn	Lys
	370					375					380				
Pro	Arg	Thr	His	Met	Val	Val	Glu	Val	Asp	Ser	Met	Pro	Ala	Ala	Ser
385					390					395					400
Ser	Val	Lys	Lys	Pro	Phe	Gly	Leu	Arg	Ser	Lys	Met	Gly	Lys	Trp	Cys
				405					410					415	
Cys	Arg	Cys	Phe	Pro	Cys	Cys	Arg	Glu	Ser	Gly	Lys	Ser	Asn	Val	Gly
			420					425					430		
Thr	Ser	Gly	Asp	His	Asp	Asp	Ser	Ala	Met	Lys	Thr	Leu	Arg	Ser	Lys
			435				440					445			
Met	Gly	Lys	Trp	Cys	Arg	His	Cys	Phe	Pro	Cys	Cys	Arg	Gly	Ser	Gly
	450					455					460				
Lys	Ser	Asn	Val	Gly	Ala	Ser	Gly	Asp	His	Asp	Asp	Ser	Ala	Met	Lys

465	Thr	Leu	Arg	Asn	Lys	Met	Gly	Lys	Trp	Cys	Cys	His	Cys	Phe	Pro	Cys
485					485					490					495	
Cys	Arg	Gly	Ser	Gly	Lys	Ser	Lys	Val	Gly	Ala	Trp	Gly	Asp	Tyr	Asp	
500								505					510			
Asp	Ser	Ala	Phe	Met	Glu	Pro	Arg	Tyr	His	Val	Arg	Gly	Glu	Asp	Leu	
515								520				525				
Asp	Lys	Leu	His	Arg	Ala	Ala	Trp	Trp	Gly	Lys	Val	Pro	Arg	Lys	Asp	
530						535					540					
Leu	Ile	Val	Met	Leu	Arg	Asp	Thr	Asp	Val	Asn	Lys	Lys	Asp	Lys	Gln	
545					550					555					560	
Lys	Arg	Thr	Ala	Leu	His	Leu	Ala	Ser	Ala	Asn	Gly	Asn	Ser	Glu	Val	
565									570					575		
Val	Lys	Leu	Leu	Leu	Asp	Arg	Arg	Cys	Gln	Leu	Asn	Val	Leu	Asp	Asn	
580								585					590			
Lys	Lys	Arg	Thr	Ala	Leu	Ile	Lys	Ala	Val	Gln	Cys	Gln	Glu	Asp	Glu	
595							600					605				
Cys	Ala	Leu	Met	Leu	Leu	Glu	His	Gly	Thr	Asp	Pro	Asn	Ile	Pro	Asp	
610						615					620					
Glu	Tyr	Gly	Asn	Thr	Thr	Leu	His	Tyr	Ala	Ile	Tyr	Asn	Glu	Asp	Lys	
625					630					635					640	
Leu	Met	Ala	Lys	Ala	Leu	Leu	Leu	Tyr	Gly	Ala	Asp	Ile	Glu	Ser	Lys	
645									650					655		
Asn	Lys	His	Gly	Leu	Thr	Pro	Leu	Leu	Leu	Gly	Val	His	Glu	Gln	Lys	
660								665					670			
Gln	Gln	Val	Val	Lys	Phe	Leu	Ile	Lys	Lys	Lys	Ala	Asn	Leu	Asn	Ala	
675							680					685				
Leu	Asp	Arg	Tyr	Gly	Arg	Thr	Ala	Leu	Ile	Leu	Ala	Val	Cys	Cys	Gly	
690						695					700					
Ser	Ala	Ser	Ile	Val	Ser	Leu	Leu	Leu	Glu	Gln	Asn	Ile	Asp	Val	Ser	
705					710					715					720	
Ser	Gln	Asp	Leu	Ser	Gly	Gln	Thr	Ala	Arg	Glu	Tyr	Ala	Val	Ser	Ser	
725								730					735			
His	His	His	Val	Ile	Cys	Gln	Leu	Leu	Ser	Asp	Tyr	Lys	Glu	Lys	Gln	
740								745					750			
Met	Leu	Lys	Ile	Ser	Ser	Glu	Asn	Ser	Asn	Pro	Glu	Gln	Asp	Leu	Lys	
755							760					765				
Leu	Thr	Ser	Glu	Glu	Glu	Ser	Gln	Arg	Phe	Lys	Gly	Ser	Glu	Asn	Ser	
770						775					780					
Gln	Pro	Glu	Lys	Met	Ser	Gln	Glu	Pro	Glu	Ile	Asn	Lys	Asp	Gly	Asp	
785					790					795					800	
Arg	Glu	Val	Glu	Glu	Glu	Met	Lys	Lys	His	Glu	Ser	Asn	Asn	Val	Gly	
805									810					815		
Leu	Leu															

				965					970					975	
Cys	Glu	Glu	Gln	Asn	Thr	Gly	Ile	Leu	His	Asp	Glu	Ile	Leu	Ile	His
			980					985					990		
Glu	Glu	Lys	Gln	Ile	Glu	Val	Val	Glu	Lys	Met	Asn	Ser	Glu	Leu	Ser
		995					1000					1005			
Leu	Ser	Cys	Lys	Lys	Glu	Lys	Asp	Ile	Leu	His	Glu	Asn	Ser	Thr	Leu
	1010					1015					1020				
Arg	Glu	Glu	Ile	Ala	Met	Leu	Arg	Leu	Glu	Leu	Asp	Thr	Met	Lys	His
	1025				1030					1035					104
Gln	Ser	Gln	Leu	Pro	Arg	Thr	His	Met	Val	Val	Glu	Val	Asp	Ser	Met
				1045					1050					1055	
Pro	Ala	Ala	Ser	Ser	Val	Lys	Lys	Pro	Phe	Gly	Leu	Arg	Ser	Lys	Met
			1060					1065					1070		
Gly	Lys	Trp	Cys	Cys	Arg	Cys	Phe	Pro	Cys	Cys	Arg	Glu	Ser	Gly	Lys
		1075					1080					1085			
Ser	Asn	Val	Gly	Thr	Ser	Gly	Asp	His	Asp	Asp	Ser	Ala	Met	Lys	Thr
	1090					1095					1100				
Leu	Arg	Ser	Lys	Met	Gly	Lys	Trp	Cys	Arg	His	Cys	Phe	Pro	Cys	Cys
	1105				1110					1115					112
Arg	Gly	Ser	Gly	Lys	Ser	Asn	Val	Gly	Ala	Ser	Gly	Asp	His	Asp	Asp
				1125					1130					1135	
Ser	Ala	Met	Lys	Thr	Leu	Arg	Asn	Lys	Met	Gly	Lys	Trp	Cys	Cys	His
		1140					1145						1150		
Cys	Phe	Pro	Cys	Cys	Arg	Gly	Ser	Gly	Lys	Ser	Lys	Val	Gly	Ala	Trp
		1155					1160					1165			
Gly	Asp	Tyr	Asp	Asp	Ser	Ala	Phe	Met	Glu	Pro	Arg	Tyr	His	Val	Arg
	1170					1175					1180				
Gly	Glu	Asp	Leu	Asp	Lys	Leu	His	Arg	Ala	Ala	Trp	Trp	Gly	Lys	Val
	1185				1190					1195					120
Pro	Arg	Lys	Asp	Leu	Ile	Val	Met	Leu	Arg	Asp	Thr	Asp	Val	Asn	Lys
			1205						1210					1215	
Lys	Asp	Lys	Gln	Lys	Arg	Thr	Ala	Leu	His	Leu	Ala	Ser	Ala	Asn	Gly
		1220						1225					1230		
Asn	Ser	Glu	Val	Val	Lys	Leu	Leu	Leu	Asp	Arg	Arg	Cys	Gln	Leu	Asn
		1235					1240					1245			
Val	Leu	Asp	Asn	Lys	Lys	Arg	Thr	Ala	Leu	Ile	Lys	Ala	Val	Gln	Cys
	1250					1255					1260				
Gln	Glu	Asp	Glu	Cys	Ala	Leu	Met	Leu	Leu	Glu	His	Gly	Thr	Asp	Pro
	1265				1270					1275					128
Asn	Ile	Pro	Asp	Glu	Tyr	Gly	Asn	Thr	Thr	Leu	His	Tyr	Ala	Ile	Tyr
			1285						1290					1295	
Asn	Glu	Asp	Lys	Leu	Met	Ala	Lys	Ala	Leu	Leu	Leu	Tyr	Gly	Ala	Asp
		1300						1305					1310		
Ile	Glu	Ser	Lys	Asn	Lys	His	Gly	Leu	Thr	Pro	Leu	Leu	Gly	Val	
		1315					1320					1325			
His	Glu	Gln	Lys	Gln	Gln	Val	Val	Lys	Phe	Leu	Ile	Lys	Lys	Lys	Ala
	1330					1335					1340				
Asn	Leu	Asn	Ala	Leu	Asp	Arg	Tyr	Gly	Arg	Thr	Ala	Leu	Ile	Leu	Ala
	1345				1350					1355					136
Val	Cys	Cys	Gly	Ser	Ala	Ser	Ile	Val	Ser	Leu	Leu	Leu	Glu	Gln	Asn
			1365						1370					1375	
Ile	Asp	Val	Ser	Ser	Gln	Asp	Leu	Ser	Gly	Gln	Thr	Ala	Arg	Glu	Tyr
		1380						1385					1390		
Ala	Val	Ser	Ser	His	His	His	Val	Ile	Cys	Gln	Leu	Leu	Ser	Asp	Tyr
		1395					1400					1405			
Lys	Glu	Lys	Gln	Met	Leu	Lys	Ile	Ser	Ser	Glu	Asn	Ser	Asn	Pro	Glu
	1410					1415					1420				
Gln	Asp	Leu	Lys	Leu	Thr	Ser	Glu	Glu	Glu	Ser	Gln	Arg	Phe	Lys	Gly
	1425				1430					1435					144
Ser	Glu	Asn	Ser	Gln	Pro	Glu	Lys	Met	Ser	Gln	Glu	Pro	Glu	Ile	Asn
			1445						1450					1455	
Lys	Asp	Gly	Asp	Arg	Glu	Val	Glu	Glu	Glu	Met	Lys	Lys	His	Glu	Ser

120

1460 1465 1470
 Asn Asn Val Gly Leu Leu Glu Asn Leu Thr Asn Gly Val Thr Ala Gly
 1475 1480 1485
 Asn Gly Asp Asn Gly Leu Ile Pro Gln Arg Lys Ser Arg Thr Pro Glu
 1490 1495 1500
 Asn Gln Gln Phe Pro Asp Asn Glu Ser Glu Glu Tyr His Arg Ile Cys
 1505 1510 1515 152
 Glu Leu Val Ser Asp Tyr Lys Glu Lys Gln Met Pro Lys Tyr Ser Ser
 1525 1530 1535
 Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu Glu Glu
 1540 1545 1550
 Ser Gln Arg Leu Glu Gly Ser Glu Asn Gly Gln Pro Glu Lys Arg Ser
 1555 1560 1565
 Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp Arg Glu Leu Glu Asn Phe
 1570 1575 1580
 Met Ala Ile Glu Glu Met Lys Lys His Gly Ser Thr His Val Gly Phe
 1585 1590 1595 160
 Pro Glu Asn Leu Thr Asn Gly Ala Thr Ala Gly Asn Gly Asp Asp Gly
 1605 1610 1615
 Leu Ile Pro Pro Arg Lys Ser Arg Thr Pro Glu Ser Gln Gln Phe Pro
 1620 1625 1630
 Asp Thr Glu Asn Glu Glu Tyr His Ser Asp Glu Gln Asn Asp Thr Gln
 1635 1640 1645
 Lys Gln Phe Cys Glu Glu Gln Asn Thr Gly Ile Leu His Asp Glu Ile
 1650 1655 1660
 Leu Ile His Glu Glu Lys Gln Ile Glu Val Val Glu Lys Met Asn Ser
 1665 1670 1675 168
 Glu Leu Ser Leu Ser Cys Lys Lys Glu Lys Asp Ile Leu His Glu Asn
 1685 1690 1695
 Ser Thr Leu Arg Glu Glu Ile Ala Met Leu Arg Leu Glu Leu Asp Thr
 1700 1705 1710
 Met Lys His Gln Ser Gln Leu
 1715

<210> 379
 <211> 656
 <212> PRT
 <213> Homo sapien

<400> 379
 Met Val Val Glu Val Asp Ser Met Pro Ala Ala Ser Ser Val Lys Lys
 1 5 10 15
 Pro Phe Gly Leu Arg Ser Lys Met Gly Lys Trp Cys Cys Arg Cys Phe
 20 25 30
 Pro Cys Cys Arg Glu Ser Gly Lys Ser Asn Val Gly Thr Ser Gly Asp
 35 40 45
 His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys Met Gly Lys Trp
 50 55 60
 Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Asn Val
 65 70 75 80
 Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Asn
 85 90 95
 Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys Cys Arg Gly Ser
 100 105 110
 Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe
 115 120 125
 Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu Asp Lys Leu His
 130 135 140
 Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met
 145 150 155 160
 Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln Lys Arg Thr Ala
 165 170 175

Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val Val Lys Leu Leu
 180 185 190
 Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr
 195 200 205
 Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met
 210 215 220
 Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn
 225 230 235 240
 Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys Leu Met Ala Lys
 245 250 255
 Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly
 260 265 270
 Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys Gln Gln Val Val
 275 280 285
 Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr
 290 295 300
 Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile
 305 310 315 320
 Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser Ser Gln Asp Leu
 325 330 335
 Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser His His His Val
 340 345 350
 Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln Met Leu Lys Ile
 355 360 365
 Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu
 370 375 380
 Glu Glu Ser Gln Arg Phe Lys Gly Ser Glu Asn Ser Gln Pro Glu Lys
 385 390 395 400
 Met Ser Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp Arg Glu Val Glu
 405 410 415
 Glu Glu Met Lys Lys His Glu Ser Asn Asn Val Gly Leu Leu Glu Asn
 420 425 430
 Leu Thr Asn Gly Val Thr Ala Gly Asn Gly Asp Asn Gly Leu Ile Pro
 435 440 445
 Gln Arg Lys Ser Arg Thr Pro Glu Asn Gln Gln Phe Pro Asp Asn Glu
 450 455 460
 Ser Glu Glu Tyr His Arg Ile Cys Glu Leu Val Ser Asp Tyr Lys Glu
 465 470 475 480
 Lys Gln Met Pro Lys Tyr Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp
 485 490 495
 Leu Lys Leu Thr Ser Glu Glu Glu Ser Gln Arg Leu Glu Gly Ser Glu
 500 505 510
 Asn Gly Gln Pro Glu Leu Glu Asn Phe Met Ala Ile Glu Glu Met Lys
 515 520 525
 Lys His Gly Ser Thr His Val Gly Phe Pro Glu Asn Leu Thr Asn Gly
 530 535 540
 Ala Thr Ala Gly Asn Gly Asp Asp Gly Leu Ile Pro Pro Arg Lys Ser
 545 550 555 560
 Arg Thr Pro Glu Ser Gln Gln Phe Pro Asp Thr Glu Asn Glu Glu Tyr
 565 570 575
 His Ser Asp Glu Gln Asn Asp Thr Gln Lys Gln Phe Cys Glu Glu Gln
 580 585 590
 Asn Thr Gly Ile Leu His Asp Glu Ile Leu Ile His Glu Glu Lys Gln
 595 600 605
 Ile Glu Val Val Glu Lys Met Asn Ser Glu Leu Ser Leu Ser Cys Lys
 610 615 620
 Lys Glu Lys Asp Ile Leu His Glu Asn Ser Thr Leu Arg Glu Glu Ile
 625 630 635 640
 Ala Met Leu Arg Leu Glu Leu Asp Thr Met Lys His Gln Ser Gln Leu
 645 650 655

<210> 380

122

<211> 671
 <212> PRT
 <213> Homo sapien

<400> 380
 Met Val Val Glu Val Asp Ser Met Pro Ala Ala Ser Ser Val Lys Lys
 1 5 10 15
 Pro Phe Gly Leu Arg Ser Lys Met Gly Lys Trp Cys Cys Arg Cys Phe
 20 25 30
 Pro Cys Cys Arg Glu Ser Gly Lys Ser Asn Val Gly Thr Ser Gly Asp
 35 40 45
 His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys Met Gly Lys Trp
 50 55 60
 Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Asn Val
 65 70 75 80
 Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Asn
 85 90 95
 Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys Cys Arg Gly Ser
 100 105 110
 Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe
 115 120 125
 Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu Asp Lys Leu His
 130 135 140
 Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met
 145 150 155 160
 Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln Lys Arg Thr Ala
 165 170 175
 Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val Val Lys Leu Leu
 180 185 190
 Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr
 195 200 205
 Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met
 210 215 220
 Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn
 225 230 235 240
 Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys Leu Met Ala Lys
 245 250 255
 Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly
 260 265 270
 Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys Gln Gln Val Val
 275 280 285
 Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr
 290 295 300
 Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile
 305 310 315 320
 Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser Ser Gln Asp Leu
 325 330 335
 Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser His His Val
 340 345 350
 Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln Met Leu Lys Ile
 355 360 365
 Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu
 370 375 380
 Glu Glu Ser Gln Arg Phe Lys Gly Ser Glu Asn Ser Gln Pro Glu Lys
 385 390 395 400
 Met Ser Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp Arg Glu Val Glu
 405 410 415
 Glu Glu Met Lys Lys His Glu Ser Asn Asn Val Gly Leu Leu Glu Asn
 420 425 430
 Leu Thr Asn Gly Val Thr Ala Gly Asn Gly Asp Asn Gly Leu Ile Pro
 435 440 445
 Gln Arg Lys Ser Arg Thr Pro Glu Asn Gln Gln Phe Pro Asp Asn Glu

	450					455					460					
Ser 465	Glu	Glu	Tyr	His	Arg 470	Ile	Cys	Glu	Leu	Val 475	Ser	Asp	Tyr	Lys	Glu 480	
Lys	Gln	Met	Pro	Lys 485	Tyr	Ser	Ser	Glu	Asn 490	Ser	Asn	Pro	Glu	Gln 495	Asp	
Leu	Lys	Leu	Thr 500	Ser	Glu	Glu	Glu	Ser 505	Gln	Arg	Leu	Glu	Gly 510	Ser	Glu	
Asn	Gly	Gln	Pro	Glu 515	Lys	Arg	Ser 520	Gln	Glu	Pro	Glu	Ile 525	Asn	Lys	Asp	
Gly	Asp 530	Arg	Glu	Leu	Glu	Asn 535	Phe	Met	Ala	Ile	Glu 540	Glu	Met	Lys	Lys	
His 545	Gly	Ser	Thr	His	Val 550	Gly	Phe	Pro	Glu	Asn 555	Leu	Thr	Asn	Gly	Ala 560	
Thr	Ala	Gly	Asn	Gly 565	Asp	Asp	Gly	Leu	Ile 570	Pro	Pro	Arg	Lys	Ser 575	Arg	
Thr	Pro	Glu	Ser 580	Gln	Gln	Phe	Pro	Asp 585	Thr	Glu	Asn	Glu	Glu 590	Tyr	His	
Ser	Asp	Glu	Gln	Asn	Asp	Thr	Gln	Lys 600	Gln	Phe	Cys	Glu 605	Glu	Gln	Asn	
Thr	Gly 610	Ile	Leu	His	Asp 615	Glu	Ile	Leu	Ile	His 620	Glu	Glu	Lys	Gln	Ile	
Glu 625	Val	Val	Glu	Lys	Met 630	Asn	Ser	Glu	Leu	Ser 635	Leu	Ser	Cys	Lys	Lys	
Glu	Lys	Asp	Ile	Leu 645	His	Glu	Asn	Ser	Thr 650	Leu	Arg	Glu	Glu	Ile 655	Ala	
Met	Leu	Arg	Leu 660	Glu	Leu	Asp	Thr	Met 665	Lys	His	Gln	Ser	Gln 670	Leu		

```
<210> 381
<211> 251
<212> DNA
<213> Homo sapien
```

<400>	381						
ggagaagcgt	ctgctggggc	aggaaggggt	ttccctgcc	tctcacctgt	ccctcaccaa		60
ggtaacatgc	ttcccctaag	ggtatcccaa	cccaggggcc	tcaccatgac	ctctgagggg		120
ccaatatccc	aggagaagca	ttggggagtt	gggggcaggt	gaaggaccca	ggactcacac		180
atcctggggc	tccaaggcag	aggagagggt	cctcaagaag	gtcaggagga	aaatccgtaa		240
caagcagtc	a						251

```
<210> 382
<211> 3279
<212> DNA
<213> Homo sapiens
```

<400>	382						
cttcctgcag	cccccatgct	ggtgaggggc	acgggcagga	acagtggacc	caacatggaa	60	
atgctggagg	gtgtcaggaa	gtgatcgggc	tctggggcag	ggaggagggg	tggggagtgt	120	
cactggggag	ggacatcctg	cagaaggtag	gagtggagcaa	acaccgcgtg	caggggaggg	180	
gagagccctg	cggcaccttg	gggagcagag	ggagcagcac	ctgccaggcc	ctgggaggag	240	
gggcctggag	ggcgtgagga	ggagcgaggg	ggctgcatgg	ctggagttag	ggatcagggg	300	
cagggcgcgga	gatggcctca	cacagggaag	agagggcccc	tcctgcaggg	cctcacctgg	360	
gccacaggag	gacactgctt	ttcctctgag	gagtcaggag	ctgtggatgg	tgtcggacag	420	
aagaaggaca	gggcctggct	caggtgtcca	gaggtgtctg	ctggcttccc	tttgggatca	480	
gactgcaggg	agggaggggc	gcagggttgt	ggggggagtg	acgatgagga	tgacctgggg	540	
gtggctccag	gccttgcccc	tgccctggcc	ctcaccagc	ctccctcaca	gtctcctggc	600	
cctcagtcct	tccctccac	tccatcctcc	atctggcctc	agtgggtcat	tctgatcact	660	
gaactgacca	taccagccc	tgcccacggc	cctccatggc	tccccaatgc	cctggagagg	720	
ggacatctag	tcagagagta	gtcctgaaga	ggtggcctct	gcgatgtgcc	tgtgggggca	780	
gcatactgca	gatggtcccc	gccctcatcc	tgtgcacctg	cttcgcagga	ctgtcctcct	840	
ggaccttgcc	ccttgtgcag	gagctggacc	ctgaagtcct	ctccccatag	gccaagactg	900	
gaqccttggt	ccctctgttg	gactccctgc	ccatattctt	gtgggagtgg	gttctggaga	960	

```
<210> 383
<211> 155
<212> PRT
<213> Homo sapiens
```

<400> 383

Met Ala Gly Val Arg Asp Glu Gly Gln Gly Ala Arg Trp Pro His Thr
5 10 15

Gly Lys Arg Gly Pro Leu Leu Gln Gly Leu Thr Trp Ala Thr Gly Gly
20 25 30

His Cys Phe Ser Ser Glu Glu Ser Gly Ala Val Asp Gly Ala Gly Gln
35 40 45

Lys Lys Asp Arg Ala Trp Leu Arg Cys Pro Glu Ala Val Ala Gly Phe
50 55 60

Pro Leu Gly Ser Asp Cys Arg Glu Gly Gly Arg Gln Gly Cys Gly Gly
65 70 75 80

Ser Asp Asp Glu Asp Asp Leu Gly Val Ala Pro Gly Leu Ala Pro Ala

125

			85						90					95	
Trp	Ala	Leu	Thr	Gln	Pro	Pro	Ser	Gln	Ser	Pro	Gly	Pro	Gln	Ser	Leu
			100					105					110		
Pro	Ser	Thr	Pro	Ser	Ser	Ile	Trp	Pro	Gln	Trp	Val	Ile	Leu	Ile	Thr
		115					120					125			
Glu	Leu	Thr	Ile	Pro	Ser	Pro	Ala	His	Gly	Pro	Pro	Trp	Leu	Pro	Asn
	130					135					140				
Ala	Leu	Glu	Arg	Gly	His	Leu	Val	Arg	Glu						
145					150										

<210> 384
 <211> 557
 <212> DNA
 <213> Homo sapiens

<400> 384
 ggatcctcta gagcgccgc ctactactac taaattcgcg gccgcgtcga cgaagaagag 60
 aaagatgtgt tttgttttgg actctctgtg gtcccttcca atgctgtggg ttccaacca 120
 ggggaagggt cccttttgca ttgccaagtg ccataaccat gagcactact ctaccatggg 180
 tctgcctcct ggccaagcag gctggtttgc aagaatgaaa tgaatgattc tacagctagg 240
 acttaacctt gaaatggaaa gtcttgcaat cccatttgca ggatccgtct gtgcacatgc 300
 ctctgtagag agcagcattc ccaggacact tggaaacagt tggcactgta aggtgcttgc 360
 tccccaagac acatccctaaa aggtgttgta atggtgaaaa cgtcttcctt ctttattgcc 420
 ccttcttatt tatgtgaaca actgtttgtc tttttttgta tcttttttaa actgtaaaag 480
 tcaattgtga aaatgaatat catgcaaata aattatgcga ttttttttc aaagtaaaaa 540
 aaaaaaaaa aaaaaaa 557

<210> 385
 <211> 337
 <212> DNA
 <213> Homo sapiens

<400> 385
 ttcccagggt atgtgcgagg gaagacacat ttactatcct tgatggggct gattccttta 60
 gtttctctag cagcagatgg gttaggagga agtgacccaa gtggttgact cctatgtgca 120
 tctcaaagcc atctgctgtc ttcgagtacg gacacatcat cactcctgca ttgttgatca 180
 aaacgtggag gtgcttttcc tcagctaaga agcccttagc aaaagctcga atagacttag 240
 tatcagacag gtccagtttc cgcaccaaca cctgctggtt ccctgtcgtg gtctggatct 300
 ctttggccac caattccccc ttttccacat cccggca 337

<210> 386
 <211> 300
 <212> DNA
 <213> Homo sapiens

<400> 386
 gggcccgtca ccggcccagg cccgcctcgc cgagtcctcc tccccgggtg cctgcccgca 60
 gccgcgtcgc cccagagggt gggcgcgggg ctgcctctac cggctggcgg ctgtaactca 120
 gcgaccttgg cccgaaggct ctagcaagga cccaccgacc ccagccgcgg cggcgggcgg 180
 gcggactttg cccggtgtgt gggcgggagc ggactgctgt tccgcggacg ggcagcgaag 240
 atggttagcct tcgctgccag gaccgtggac cgatcccagg gctgtggtgt aacctcagcc 300

<210> 387
 <211> 537
 <212> DNA
 <213> Homo sapiens

<400> 387

```
gggccgagtc gggcaccaag ggactctttg caggcttcct tcctcggatc atcaaggctg 60
ccccctcctg tgccatcatg atcagcacct atgagttcgg caaaagcttc ttccagaggc 120
tgaaccagga ccggcttctg ggcggtgaa aggggcaagg aggcaaggac cccgtctctc 180
ccacggatgg ggagagggca ggaggagacc cagccaagtg ccttttcctc agcactgagg 240
gagggggctt gtttcccttc cctcccggcg acaagctcca gggcagggtt gtccctctgg 300
gogggccagc acttcctcag acacaacttc ttctgtctgc tccagtcgtg gggatcatca 360
cttaccacc cccaagtgc aagaccaa atctccagctg ccccttcgt gtttccctgt 420
gtttgtgta gctgggcatg tctccaggaa ccaagaagcc ctcagcctgg ttagtctcc 480
ctgacccttg ttaattcctt aagtctaaag atgatgaact tcaaaaaaaaa aaaaaaa 537
```

<210> 388

<211> 520

<212> DNA

<213> Homo sapiens

<400> 388

```
aggataat ttaaaccaat caaatgaaaa aaacaaacaa acaaaaaagg aaatgtcatg 60
tgaggtaaaa ccagtttgca ttccccta atgtggaaaa taagaggact actcagcact 120
gtttgaagat tgcctcttct acagcttctg agaatttgtt tatttcaact gccaaagtga 180
ggacccctc cccaacatgc ccagcccac ccctaagcat ggtcccttgt caccaggcaa 240
ccaggaaact gctacttgtg gacctcacca gagaccagga gggtttggtt agctcacagg 300
acttccccca cccagaaga ttagcatccc atactagact catactcaac tcaactaggc 360
tcatactcaa ttgatgggta ttagacaatt ccatttcttt ctggttatta taaacagaaa 420
atctttcctc ttctcattac cagtaaaggc tcttggtatc tttctgttgg aatgatttct 480
atgaacttgt cttattttta tggtgggtt ttttctggt 520
```

<210> 389

<211> 365

<212> DNA

<213> Homo sapiens

<400> 389

```
cgttgcccc gtttgacaga aggaaaggcg gagcttattc aaagtctaga gggagtggag 60
gagttaaagg tggatttcag atctgcctgg ttccagccgc agtgtgccct ctgctcccc 120
aacgacttcc caaataatct caccagcgcc ttccagctca ggcgtcctag aagcgtcttg 180
aagcctatgg ccagctgtct ttgtgttccc tctcaccgc ctgtcctcac agctgagact 240
cccaggaaac cttcagacta cttcctctg cttcagcaa ggggcgttgc ccacattctc 300
tgagggtcag tggaagaacc tagactccca ttgctagagg tagaaagggg aagggtgctg 360
gggag 365
```

<210> 390

<211> 221

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(221)

<223> n = A,T,C or G

<400> 390

```
tgcctctcca tcctggcccc gacttctctg tcaggaaagt ggggatggac cccatctgca 60
tacacggnnt ctcatgggtg tggaacatct ctgcttgccg tttcaggaag gcctctggct 120
gctctangag tctgannga ntcgttgccc cantntgaca naaggaaagg cggagcttat 180
tcaaagtcta gagggtgagg aggagttaa gctggatttc a 221
```

<210> 391

<211> 325

<212> DNA

<213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(325)
 <223> n = A,T,C or G

<400> 391
 tggagcaggt cccgaggcct ccctagagcc tggggccgac tctgtgncga tgcangcttt 60
 ctctcgcgcc cagcctggag ctgctcctgg catctaccaa caatcagncg aggcgagcag 120
 tagccagggc actgctgcca acagccagtc cnnataccat catgtnaccc ggtgngctct 180
 naanttngat ntccanagcc ctacccatcn tagttctgct ctcccaccgg ntaccagccc 240
 cactgcccag gaatcctaca gccagtaccc tgtcccgcag tctctaccta ccagtacgat 300
 gagacctccg gctactacta tgacc 325

<210> 392
 <211> 277
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(277)
 <223> n = A,T,C or G

<400> 392
 atattgttta actccttcct ttatatcttt taacattttc atggngaaag gttcacatct 60
 agtctcactt nggcnagn gn ctcctacttg agtctcttcc ccggcctggn ccagtngnaa 120
 antaccanga accgncatgn cttanaaen ncctgggttn tgggttnntc aatgactgca 180
 tgcaagtgcac caccctgtcc actacgtgat gctgtaggat taaagtctca cagtgggcgg 240
 ctgaggatatac agcgccgcgt cctgtgttgc tgggggaa 277

<210> 393
 <211> 566
 <212> DNA
 <213> Homo sapiens

<400> 393
 actagtccag tgtggtggaa ttcgcggccg cgtcgacgga caggtcagct gtctggctca 60
 gtgatctaca ttctgaagtt gtctgaaaat gtcttcatga ttaaattcag cctaaacggt 120
 ttgccgggaa cactgcagag acaatgctgt gagtttccaa ccttagccca tctgcgggca 180
 gagaaggtct agtttgtcca tcagcattat catgatatac ggactgggta cttgggttaag 240
 gaggggtcta ggagatctgt cccttttaga gacaccttac ttataatgaa gtatttgggg 300
 ggggtggtttt caaaagtaga aatgtcctgt attccgatga tcatcctgta aacattttat 360
 catttattaa tcatccctgc ctgtgtctat tattatattc atatctctac gctggaaact 420
 ttctgcctca atgtttactg tgcccttggt tttgctagtt tgtgtgtgtg aaaaaaaaaa 480
 cattctctgc ctgagtttta atttttgtcc aaagttattt taatctatac aattaaagc 540
 ttttgcctat caaaaaaaaaa aaaaaa 566

<210> 394
 <211> 384
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(384)
 <223> n = A,T,C or G

<400> 394
 gaacatacat gtcccggcac ctgagctgca gtctgacatc atcgccatca cgggcctcgc 60
 tgcaaatng gaccgggcca aggctggact gctggagcgt gtgaaggagc tacaggccna 120
 gcaggaggac cgggctttta ggagttttta gctgagtgtc actgtagacc ccaaatacca 180
 tcccaagatt atcgggagaa agggggcagt aattacccaa atccggttgg agcatgacgt 240

gaacatccag tttcctgata aggacgatgg gaaccagccc caggaccaaa ttaccatcac 300
aggggtacgaa aagaacacag aagctgccag ggatgctata ctgagaattg tgggtgaact 360
tgagcagatg gtttctgagg acgt 384

<210> 395
<211> 399
<212> DNA
<213> Homo sapiens

<400> 395
ggcaaaactg tgtgacctca ataagacctc gcagatccaa ggtcaagtat cagaagtgac 60
tctgaccttg gactccaaga cctacatcaa cagcctggct atattagatg atgagccagt 120
tatcagaggt ttcatcattg cggaaattgt ggagtctaag gaaatcatgg cctctgaagt 180
attcacgtct ttccagtacc ctgagttctc tatagagttg cctaacacag gcagaattgg 240
ccagctactt gtctgcaatt gtatcttcaa gaataccctg gccatccctt tgactgacgt 300
caagttctct ttggaaagcc tgggcacatc ctactacag acctctgacc atgggacggt 360
gcagcctggg gagaccatcc aatcccaaat aaaatgcac 399

<210> 396
<211> 403
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(403)
<223> n = A,T,C or G

<400> 396
tggagttntc agtgcaaaca agccataaag cttcagtagc aaattactgt ctcacagaaa 60
gacattttca acttctgctc cagctgctga taaaacaaat catgtgttta gcttgactcc 120
agacaaggac aacctgttcc ttcataactc tctagagaaa aaaaggagtt gttagtagat 180
actaaaaaaa gtggatgaat aatctggata tttttcctaa aaagattcct tgaaacacat 240
taggaaaatg gagggcctta tgatcagaat gctagaatta gtccattgtg ctgaagcagg 300
gtttagggga gggagtggag gataaaagaa ggaaaaaaag aagagtgaga aaacctattt 360
atcaaagcag gtgctatcac tcaatgttag gccctgctct ttt 403

<210> 397
<211> 100
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(100)
<223> n = A,T,C or G

<400> 397
actagtnacg tgtgggtgaa ttcgcggccg cgctcgacct naanccatct ctatagcaaa 60
tccatccccg ctctgtgttg gtnacagaat gactgacaaa 100

<210> 398
<211> 278
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(278)
<223> n = A,T,C or G

<400> 398

129

```

gcggccgcgt cgacagcagt tccgccagcg ctcgcccctg ggtggggatg tgctgcacgc 60
ccacctggac atctggaagt cagcggcctg gatgaaagag cggacttcac ctggggcgat 120
tcactactgt gcctcgacca gtgaggagag ctggaccgac agcgaggtgg actcatcatg 180
ctccgggcag cccatccacc tgtggcagtt cctcaaggag ttgctactca agccccacag 240
ctatggccgc ttcattangt ggctcaacaa ggagaagg          278

```

<210> 399
 <211> 298
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(298)
 <223> n = A,T,C or G

```

<400> 399
acggaggtgg aggaagcgc cctgggatcg anaggatggg tcctgncatt gaccncctcn 60
ggggtgccng catggagcgc atgggcgcgg gcctgggcca cggcatggat cgcgtgggct 120
ccgagatcga gcgcatgggc ctgggtcatgg accgcatggg ctccgtggag cgcgtgggct 180
ccggcattga gcgcatgggc ccgctgggcc tcgaccacat ggcctccanc attgancgca 240
tgggccagac catggagcgc attggctctg gcgtggagcn catgggtgcc ggcatggg 298

```

<210> 400
 <211> 548
 <212> DNA
 <213> Homo sapiens

```

<400> 400
acatcaacta cttcctcatt ttaaggtatg gcagttccct tcatcccttt ttctgcctt 60
gtacatgtac atgtatgaaa tttccttctc ttaccgaact ctctccacac atcacaaggt 120
caaagaacca cagccttaga agggtaagag ggcaccctat gaaatgaaat ggtgatttct 180
tgagtctctt ttttccacgt ttaagggggc atggcaggac ttagagttgc gagttaagac 240
tgcagagggc tagagaatta ttccatacag gctttgaggc caccatgtc acttatcccg 300
tataccctct caccatcccc ttgtctactc tgatgcccc aagatgcaac tgggcagcta 360
gttggcccca taattctggg cctttgttgt ttgttttaac tacttgggca tcccaggaag 420
ctttccagtg atctcctacc atgggcccc ctcttgggat caagcccctc ccaggccctg 480
tccccagccc ctctgcccc agcccacccg cttgccttgg tgctcagccc tcccattggg 540
agcaggtt          548

```

<210> 401
 <211> 355
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(355)
 <223> n = A,T,C or G

```

<400> 401
actgtttcca tgttatgttt ctacacattg ctacctcagt gctcctggaa acttagcttt 60
tgatgtctcc aagtagtcca ctttcattta actctttgaa actgtatcat ctttgccaag 120
taagagtggg ggcctatttc agctgctttg acaaaatgac tggtcctga cttaacgttc 180
tataaatgaa tgtgctgaag caaagtggcc atgggtggcg cgaagaagan aaagatgtgt 240
tttgttttgg actctctgtg gtcccttcca atgctgnggg tttccaacca ggggaagggt 300
cccttttgca ttgccaaagt ccataaccat gagcactact ctaccatggn tctgc 355

```

<210> 402
 <211> 407
 <212> DNA
 <213> Homo sapiens

130

<220>
 <221> misc_feature
 <222> (1)...(407)
 <223> n = A,T,C or G

<400> 402
 atggggcaag ctggataaag aaccaagacc cactggagta tgctgtcttc aagaaaccca 60
 tctcacatgc ggtggcatac ataggctcaa aataaaggaa tggagaaaaa tatttcaagc 120
 aaatggaaaa cagaaaaaag caggtgttgc actcctactt tctgacaaaa cagactatgc 180
 gaataaagat aaaaaagaga aggacattac aaaggtgggc ctgacctttg ataaatctca 240
 ttgcttgata ccaacctggg ctgttttaat tgcccaaacc aaaaggataa tttgctgagg 300
 ttgtggagct tctcccctgc agagagtccc tgatctccca aaatttggtt gagatgtaag 360
 gntgattttg ctgacaactc cttttctgaa gttttactca tttccaa 407

<210> 403
 <211> 303
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(303)
 <223> n = A,T,C or G

<400> 403
 cagtatttat agccnaactg aaaagctagt agcaggcaag tctcaaattcc aggcacacaaa 60
 tctaagcaa gagccatggc atggtgaaaa tgcaaaagga gagtctggcc aatctacaaa 120
 tagagaacaa gacctactca gtcatagaaca aaaaggcaga caccaacatg gatctcatgg 180
 gggattggat attgtaatta tagagcagga agatgacagt gatcgtcatt tggcacaaca 240
 tcttaacaac gaccgaaacc cattatttac ataaacctcc attcggtaac catgttgaaa 300
 gga 303

<210> 404
 <211> 225
 <212> DNA
 <213> Homo sapiens

<400> 404
 aagtgttaact tttaaaaatt tagtggattt tgaaaattct tagaggaaag taaaggaaaa 60
 attgttaatg cactcattha cctttacatg gtgaaagtgc tctcttgatc ctacaaacag 120
 acattttcca ctgctgtttc catagtgtgt aagtgtatca gatgtgttgg gcatgtgaat 180
 ctccaagtgc ctgtgtaata aataaagtat ctttatttca ttcatt 225

<210> 405
 <211> 334
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(334)
 <223> n = A,T,C or G

<400> 405
 gagctgttat actgtgagtt ctactaggaa atcatcaaat ctgagggttg tctggaggac 60
 ttcaatacac ctcccccat agtgaatcag cttccagggg gtccagtccc tctccttact 120
 tcatccccat cccatgccaa aggaagaccc tccctccttg gctcacagcc ttctctaggc 180
 ttcccagtgc ctccaggaca gagtgggtta tgttttcagc tccatccttg ctgtgagtg 240
 ctggtgcggt tgtgcctcca gcttctgctc agtgcctcat ggacagtgtc cagcccatgt 300
 cactctccac tctctcanng tggatcccac ccct 334

131

<210> 406
 <211> 216
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(216)
 <223> n = A,T,C or G

<400> 406
 tttcatacct aatgagggag ttganatnac atnnaaccag gaaatgcatg gatctcaang 60
 gaaacaaaca cccaataaac tcggagtggc agactgacaa ctgtgagaca tgcacttgct 120
 acnaaacaca aatttnatgt tgcacccttg tttctacacc tgtgggttat gacaaagaca 180
 actgccaaag aatnttcaag aaggaggact gccant 216

<210> 407
 <211> 413
 <212> DNA
 <213> Homo sapiens

<400> 407
 gctgacttgc tagtatcatc tgcattcatt gaagcacaag aacttcatgc cttgactcat 60
 gtaaatgcaa taggattaaa aaataaattt gatatcacat ggaaacagac aaaaaatatt 120
 gtacaacatt gcacccagtg tcagattcta cacctggcca ctcaggaagc aagagttaat 180
 cccagaggtc tatgtcctaa tgtgttatgg caaatggatg tcatgcacgt accttcattt 240
 ggaaaattgt catttgtcca tgtgacagtt gatacttatt cacatttcat atgggcaacc 300
 tgccagacag gagaaagtct tcccatgtta aaagacattt attatcttgt tttcctgtca 360
 tgggagttcc agaaaaagtt aaaacagaca atggggccagg ttctgtagta aag 413

<210> 408
 <211> 183
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(183)
 <223> n = A,T,C or G

<400> 408
 ggagctngcc ctcaattcct ccatntctat gttancatat ttaatgtctt ttgnnattaa 60
 tnccttaacta gttaatcctt aaagggctan ntaatcctta actagtcctt ccattgtgag 120
 cattatcctt ccagtattcn ccttctnttt tatttactcc ttcctggcta cccatgtact 180
 ntt 183

<210> 409
 <211> 250
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(250)
 <223> n = A,T,C or G

<400> 409
 cccacgcatg ataagctctt tatttctgta agtcctgcta ggaaatcatc aaatctgacg 60
 gtgggtttggg ggacctgaac aaacctcctg taattaatca gctttcagtt tctcccccta 120
 gtccctcctt caacaacata ggaggatcct ccccttcttt ctgctcacgg ccttatctag 180
 gcttcccagt gccccagga cagcgtgggc tatgtttaca gcgcntcctt gctggggggg 240
 ggcctatgc 250

<210> 410
 <211> 306
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(306)
 <223> n = A,T,C or G

<400> 410
 ggctggtttg caagaatgaa atgaatgatt ctacagctag gacttaacct tgaaatggaa 60
 agtcttgcaa tcccatttgc aggatccgtc tgtgcacatg cctctgtaga gagcagcatt 120
 cccagggacc ttggaaacag ttggcactgt aagggtgctt ctccccaaga cacatcctaa 180
 aagggtgtgt aatggtgaaa accgcttcct tctttattgc cccttcttat ttatgtgaac 240
 nactggttgg ctttttttgn atctttttta aactggaaag ttcaattgng aaaatgaata 300
 tcntgc 306

<210> 411
 <211> 261
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(261)
 <223> n = A,T,C or G

<400> 411
 agagatattn cttaggtnaa agttcataga gttcccatga actatatgac tggccacaca 60
 ggatcttttg tatttaagga ttctgagatt ttgcttgagc aggattagat aaggctgttc 120
 tttaaatgtc tgaaatggaa cagatttcaa aaaaaaaccc cacaatctag ggtgggaaca 180
 aggaaggaaa gatgtgaata ggctgatggg caaaaaacca atttaccat cagttccagc 240
 cttctctcaa ggnagggcaa a 261

<210> 412
 <211> 241
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(241)
 <223> n = A,T,C or G

<400> 412
 gttcaatgtt acctgacatt tctacaacac cccactcacc gatgtattcg ttgccagtg 60
 ggaacatacc agcctgaatt tggaaaaaat aattgtgtt cttgcccagc aaatactacg 120
 actgactttg atggctccac aaacataacc cagtgtaaaa acagaagatg tggaggggag 180
 ctgggagatt tctactgggta cattgaattc ccaaactacc cangcaatta cccagccaac 240
 a 241

<210> 413
 <211> 231
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(231)
 <223> n = A,T,C or G

<400> 413
aactctttaca atccaagtga ctcatctgtg tgcttgaatc ctttccactg tctcatctcc 60
ctcatccaag tttctagtac cttctctttg ttgtgaagga taatcaaact gaacaacaaa 120
aagtttactc tcctcatttg gaacctaaaa actctcttct tcttgggtct gaggggtcca 180
agaatccttg aatcanttct cagatcattg gggacaccan atcaggaacc t 231

<210> 414
<211> 234
<212> DNA
<213> Homo sapiens

<400> 414
actgtccatg aagcactgag cagaagctgg aggcacaacg caccagacac tcacagcaag 60
gatggagctg aaaacataac ccactctgtc ctggaggcac tgggaagcct agagaaggct 120
gtgagccaag gagggagggt cttccttttg catgggatgg ggatgaagta aggagaggga 180
ctggaccccc tggaagctga ttcactatgg ggggagggtg attgaagtcc tcca 234

<210> 415
<211> 217
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(217)
<223> n = A,T,C or G

<400> 415
gcataggatt aagactgagt atcttttcta cattctttta actttctaag gggcacttct 60
caaaacacag accaggtagc aaatctccac tgctctaagg ntctcaccac cacttttcta 120
cacctagcaa tagtagaatt cagtcctact tctgaggcca gaagaatggt tcagaaaaat 180
antggattat aaaaaataac aattaagaaa aataatc 217

<210> 416
<211> 213
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(213)
<223> n = A,T,C or G

<400> 416
atgcataatnt aaagganact gcctcgcttt tagaagacat ctggnctgct ctctgcatga 60
ggcacagcag taaagctctt tgattcccag aatcaagaac tctccccttc agactattac 120
cgaatgcaag gtggttaatt gaaggccact aattgatgct caaatagaag gatattgact 180
atattggaac agatggagtc tctactacaa aag 213

<210> 417
<211> 303
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(303)
<223> n = A,T,C or G

<400> 417
nagtcttcag gcccatcagg gaagttcaca ctggagagaa gtcatacata tgtactgtat 60

134

```

gtgggaaagg ctttactctg agttcaaadc ttcaagccca tcagagagtc cacactggag 120
agaagccata caaatgcaat gagtgtggga agagcttcag gagggattcc cattatcaag 180
ttcatctagt ggtccacaca ggagagaaac cctataaatg tgagatatgt gggaagggt 240
tcantcaaag ttcgtatctt caaatccatc ngaaggacca cagtatanan aaacctttta 300
agt

```

```

<210> 418
<211> 328
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(328)
<223> n = A,T,C or G

```

```

<400> 418
tttttggcgg tgggtggggca gggacgggac angagtctca ctctgttgcc caggctggag 60
tgcacaggca tgatctcggc tcaactacaac ccctgcctcc catgtccaag cgattcttgt 120
gcctcagcct tccctgtagc tagaattaca ggcacatgcc accacaccca gctagttttt 180
gtatttttag tagagacagg gtttcacat gttggccagg ctggtctcaa actcctnacc 240
tcagnngtca ggctggtctc aaactcctga cctcaagtga tctgcccacc tcagcctccc 300
aaagtgtan gattacaggc cgtgagcc

```

```

<210> 419
<211> 389
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(389)
<223> n = A,T,C or G

```

```

<400> 419
cctcctcaag acggcctgtg gtccgcctcc cggcaaccaa gaagcctgca gtgccatatg 60
acccctgagc catggactgg agcctgaaag gcagcgtaca ccctgctcct gatcttgctg 120
cttgtttctt ctctgtggct ccattcatag cacagtgtgt gcactgaggc ttgtgcaggc 180
cgagcaaggc caagctggct caaagagcaa ccagtcaact ctgccacggt gtgccaggca 240
cgggttctcc agccaccaac ctcaactcgt cccgcaaagt gcacatcagt tcttctaccc 300
taaaggtagg accaaagggc atctgctttt ctgaagtctt ctgctctatc agccatcacg 360
tggcagccac tcnggctgtg tcgacgcgg

```

```

<210> 420
<211> 408
<212> DNA
<213> Homo sapiens

```

```

<400> 420
gttctctcta actcctgcc aaaaacagctc tcctcaacat gagagctgca cccctcctcc 60
tggccagggc agcaagcctt agccttggct tcttgtttct gctttttttc tggctagacc 120
gaagtgtact agccaaggag ttgaagtttg tgacttttgt gtttcggcat ggagaccgaa 180
gtcccattga cacttttccc actgacccca taaaggaatc ctcatggcca caaggatttg 240
gccaactcac ccagctgggc atggagcagc attatgaact tggagagtat ataagaaaga 300
gatatagaaa attcttgaat gagtccata aacatgaaca ggtttatatt cgaagcacag 360
acgttgaccg gactttgatg aagtgtctatg acaaacctgg caagcccc

```

```

<210> 421
<211> 352
<212> DNA
<213> Homo sapiens

```


135

<220>
 <221> misc_feature
 <222> (1)...(352)
 <223> n = A,T,C or G

<400> 421
 gctcaaaaat ctttttactg atnggcatgg ctacacaatc attgactatt acggaggcca 60
 gaggagaatg aggcctggcc tgggagccct gtgcctacta naagcacatt agattatcca 120
 ttcactgaca gaacaggctt ttttgggtc cttcttctcc accacnata acttgacgtc 180
 ctccctcttg aagattcttt ggcagttgtc tttgtcataa cccacagggtg tagaaacaag 240
 ggtgcaacat gaaatttctg tttcgtagca agtgcatgtc tcacaagttg gcangtctgc 300
 cactccgagt ttattgggtg tttgtttcct ttgagatcca tgcatttcct gg 352

<210> 422
 <211> 337
 <212> DNA
 <213> Homo sapiens

<400> 422
 atgccaccat gctggcaatg cagcggggcg tcgaaggcct gcatatccag cccaagctgg 60
 cgatgatcga cggcaaccgt tgcccgaagt tgccgatgcc agccgaagcg gtgggtcaagg 120
 gcgatagcaa ggtgccggcg atcgcgggcg cgtcaatcct ggccaagggtc agccgtgatc 180
 gtgaaatggc agctgtcgaa ttgatctacc cgggttatgg catcggcggg cataagggtc 240
 atccgacacc ggtgcacctg gaagccttgc agcggctggg gccgacgccg attcaccgac 300
 gcttcttccg ccggtacggc tggcctatga aaattat 337

<210> 423
 <211> 310
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(310)
 <223> n = A,T,C or G

<400> 423
 gctcaaaaat ctttttactg atatggcatg gctacacaat cattgactat tagaggccag 60
 aggagaatga ggcctggcct gggagccctg tgcctactan aagcncatta gattatccat 120
 ttcactgacag aacaggctct ttttgggtcc tttcttccca ccacgatata cttgcagtc 180
 tccttcttga agattctttg gcagttgtct ttgtcataac ccacagggtg anaaacaagg 240
 gtgcaacatg aaatttctgt ttcgtagcaa gtgcatgtct cacagttgtc aagtctgccc 300
 tccgagttta 310

<210> 424
 <211> 370
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(370)
 <223> n = A,T,C or G

<400> 424
 gctcaaaaat ctttttactg ataggcatgg ctacacaatc attgactatt agaggccaga 60
 ggagaatgag gcctggcctg ggagccctgt gctactaga agcacattag attatccatt 120
 cactgacaga acaggctctt tttgggtcct tcttctccac cacgatatac ttgcagtcct 180
 ccttcttgaa gattcttttg cagttgtctt tgtcataacc cacagggtgta gaaacatcct 240
 ggttgaatct cctggaactc cctcattagg tatgaaatag catgatgcat tgcataaagt 300
 cacgaagggtg gcaaagatca caacgctgcc cagganaaca ttcattgtga taagcaggac 360
 tccgtcgacg 370

136

<210> 425
 <211> 216
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(216)
 <223> n = A,T,C or G

<400> 425
 aattgctatn ntttattttg ccactcaaaa taattaccaa aaaaaaaaaa tnttaaataga 60
 taacaacnca acatcaaggn aaananaaca ggaatggntg actntgcata aatnggccga 120
 anattatcca ttatnttaag gggttgacttc aggtacagc acacagacaa acatgcccag 180
 gaggnntntca ggaccgctcg atgtntntntg aggagg 216

<210> 426
 <211> 596
 <212> DNA
 <213> Homo sapiens

<400> 426
 cttccagtga ggataaccct gttgccccgg gccgaggttc tccattaggc tctgattgat 60
 tggcagtcag tgatggaagg gtgttctgat cattccgact gcccgaaggg tcgctggcca 120
 gctctctgtt ttgctgagtt ggcagtagga cctaatttgt taattaagag tagatgggtga 180
 gctgtccttg tattttgatt aacctaatgg ccttcccagc acgactcgga ttcagctgga 240
 gacatcacgg caacttttaa tgaaatgatt tgaagggccca ttaagaggca cttcccgtta 300
 ttaggcagtt catctgcact gataaacttct tggcagctga gctggtcgga gctgtggccc 360
 aaacgcacac ttggcctttg gttttgagat acaactctta atcttttagt catgcttgag 420
 ggtggatggc cttttcagct ttaacccaat ttgcactgcc ttggaagtgt agccaggaga 480
 atacactcat atactcgtgg gcttagaggc cacagcagat gtcattgggtc tactgcctga 540
 gtcccgtcgg tcccatccca ggaccttcca tcggcgagta cctgggagcc cgtgct 596

<210> 427
 <211> 107
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(107)
 <223> n = A,T,C or G

<400> 427
 gaagaattca agttaggttt attcaaaggc cttacngaga atcctanacc caggncccag 60
 cccgggagca gccttanaga gctcctgttt gactgcccgg ctcagn 107

<210> 428
 <211> 38
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(38)
 <223> n = A,T,C or G

<400> 428
 gaacttcena anaangactt tattcactat ttacatt

38

<210> 429

<211> 544
<212> DNA
<213> Homo sapiens

<400> 429
ctttgctgga cggaataaaaa gtggacgcaa gcatgacctc ctgatgaggg cgctgcattt 60
attgaagagc ggctgcagcc ctgcggttca gattaaaatc cgagaattgt atagacgccg 120
atatccacga actcttgaag gactttctga tttatccaca atcaaatacat cggttttcag 180
tttgatggtt ggctcatcac ctgtagaacc tgacttggcc gtggctggaa tccactcggt 240
gccttccact tcagttacac ctcaactcacc atcctctcct gttggttctg tgctgcttca 300
agataactaag cccacatttg agatgcagca gccatctccc ccaattcctc ctgtccatcc 360
tgatgtgcag ttaaaaaatc tgccctttta tgatgtcctt gatgttctca tcaagcccac 420
gagtttagtt caaagcagta ttcagcgatt tcaagagaag ttttttattt ttgctttgac 480
acctcaacaa gttagagaga tatgcatatc cagggatttt ttgccagggt gtaggagaga 540
ttat 544

<210> 430
<211> 507
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(507)
<223> n = A,T,C or G

<400> 430
cttatcncaa tggggctccc aaacttggct gtgcagtgga aactccgggg gaattttgaa 60
gaacactgac acccatcttc caccgccaca ctctgattta attgggctgc agtgagaaca 120
gagcatcaat ttaaaaagct gcccagaatg ttntcctggg cagcgttgtg atctttgccn 180
ccttcgtgac tttatgcaat gcatcatgct atttcatacc taatgagggg gttccaggag 240
attcaaccag gatgtttcta cncctgtggg ttatgacaaa gacaactgcc aaagaatntt 300
caagaaggag gactgcaagt atatcgtggg ggagaagaag gacccaaaaa agacctgttc 360
tgtcagtga tggataatct aatgtgcttc tagtaggcac agggctccca ggccaggcct 420
cattctcctc tggcctctaa tagtcaatga ttgtgtagcc atgcctatca gtaaaaaagat 480
ttttgagcaa aaaaaaaaaa aaaaaaa 507

<210> 431
<211> 392
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(392)
<223> n = A,T,C or G

<400> 431
gaaaattcag aatggataaa aacaaatgaa gtacaaaata tttcagattt acatagcgat 60
aaacaagaaa gcacttatca ggaggactta caaatggaag tacactctan aaccatcatc 120
tatcatggct aaatgtgaga ttagcacagc tgtattattt gtacattgca aacacctaga 180
aagagatggg aaacaaaatc ccaggagttt tgtgtgtgga gtccctgggtt ttccaacaga 240
catcattcca gcattctgag attagggnga ttggggatca ttctggagtt ggaatgttca 300
acaaaagtga tgttggttagg taaaatgtac aacttctgga tctatgcaga cattgaaggt 360
gcaatgagtc tggcttttac tctgctgttt ct 392

<210> 432
<211> 387
<212> DNA
<213> Homo sapiens

<220>

<221> misc_feature
<222> (1)...(387)
<223> n = A,T,C or G

<400> 432
ggtatccnta cataatcaaa tatagctgta gtacatgttt tcattggngt agattaccac 60
aaatgcaagg caacatgtgt agatctcttg tcttattctt ttgtctataa tactgtattg 120
ngtagtccaa gctctcggna gtccagccac tngaaacat gctcccttta gattaacctc 180
gtggacnctn ttgttgnatt gtctgaactg tagngccctg tattttgctt ctgtctgnga 240
attctgttgc ttctggggca tttccttgng atgcagagga ccaccacaca gatgacagca 300
atctgaattg ntccaatcac agctgcgatt aagacatact gaaatcgtac aggaccggga 360
acaacgtata gaacactgga gtccttt 387

<210> 433
<211> 281
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(281)
<223> n = A,T,C or G

<400> 433
ttcaactagc anagaanact gcttcagggg gtgtaaaatg aaaggcttcc acgcagttat 60
ctgattaaag aacactaaga gagggacaag gctagaagcc gcaggatgtc tacactatag 120
caggcnctat ttgggttggc tggaggagct gtggaaaaca tggagagatt ggcgctggag 180
atcgccgtgg ctattcctcn ttgntattac accagnagg ntctctgtnt gccactggg 240
tnnaaaaccg ntatacaata atgatagaat aggacacaca t 281

<210> 434
<211> 484
<212> DNA
<213> Homo sapiens

<400> 434
ttttaaaata agcatttagt gctcagtcct tactgagtac tctttctctc cctcctctctg 60
aatttaattc ttccaacttg caatttgcaa ggattacaca ttctactgtg atgtatattg 120
tggtgcaaaa aaaaaaagt gtctttgttt aaaattactt ggtttgtgaa tccatcttgc 180
tttttcccca ttggaactag tcattaacct atctctgaac tggtagaaaa acatctgaag 240
agctagtcta tcagcatctg acaggtgaat tggatggttc tcagaacctt ttcaccaga 300
cagcctgttt ctatcctgtt taataaatta gtttgggttc tctacatgca taacaaacct 360
tgctccaate tgtcacataa aagtctgtga cttgaagttt agtcagcacc cccaccaaac 420
tttatttttc tatgtgtttt ttgcaacata tgagtgtttt gaaaataaag taccatgtc 480
ttta 484

<210> 435
<211> 424
<212> DNA
<213> Homo sapiens

<400> 435
gcgcccgtca gagcagggtca ctttctgcct tccacgtcct ccttcaagga agcccatgt 60
gggtagcttt caatatcgca ggttcttact cctctgcctc tataagctca aaccaccaa 120
cgatcgggca agtaaacccc ctccctcgcc gacttcggaa ctggcgagag ttcagcgag 180
atgggcctgt ggggaggggg caagatagat gagggggagc ggcatggtgc ggggtgacct 240
cttgagagaga ggaaaaaggc cacaagaggg gctgccaccg ccactaacgg agatggccct 300
ggtagagacc tttgggggtc tggaaacctc ggactcccca tgctctaact cccacactct 360
gctatcagaa acttaaaactt gaggattttc tctgtttttc actcgcaata aattcagagc 420
aaac 424

<210> 436

139

<211> 667
 <212> DNA
 <213> Homo sapiens
 <220>
 <221> misc_feature
 <222> (1)...(667)
 <223> n = A,T,C or G

<400> 436
 accttgggaa nactctcaca atataaaggg tcgtagactt tactccaaat tccaaaaagg 60
 tcctggccat gtaatcctga aagttttccc aaggtagcta taaaatcctt ataagggtgc 120
 agcctcttct ggaattcctc tgatttcaaa gtctcactct caagttcttg aaaacgaggg 180
 cagttcctga aaggcaggta tagcaactga tcttcagaaa gaggaactgt gtgcaccggg 240
 atgggctgcc agagtaggat aggattccag atgctgacac cttctggggg aaacaggggt 300
 gccaggtttg tcatagcact catcaaagtc cgggtcaacgt ctgtgcttcg aatataaacc 360
 tgttcatgtt tataggactc attcaagaat tttctatatc tctttcttat atactctcca 420
 agttcataat gctgctccat gccagctgg gtgagttggc caaatccttg tggccatgag 480
 gattccttta tggggtcagt gggaaagggt tcaatgggac ttcggtctcc atgccgaaac 540
 accaaagtca caaacttcaa ctcttgggt agtacacttc ggtctagcca gaaaaaaagc 600
 agaaacaaga agccaaggct aaggcttgct gccctgccag gaggaggggt gcagctctca 660
 tgttgag 667

<210> 437
 <211> 693
 <212> DNA
 <213> Homo sapiens

<400> 437
 ctacgtctca accctcattt ttaggtaagg aatcttaagt ccaaagatat taagtgactc 60
 acacagccag gtaaggaaag ctggattggc acactaggac tctaccatac cgggttttgt 120
 taaagctcag gttaggaggc tgataagctt ggaaggaaact tcagacagct ttttcagatc 180
 ataaaagata attcttagcc catgttcttc tccagagcag acctgaaatg acagcacagc 240
 aggtactcct ctattttcac cctcttgct tctactctct ggcagtcaga cctgtgggag 300
 gccatgggag aaagcagctc tctggatgtt tgtacagatc atggactatt ctctgtggac 360
 catttctcca ggttacccta ggtgtcacta ttgggggggac agccagcatc tttagctttc 420
 atttgagttt ctgtctgtct tcagtagagg aaacttttgc tcttcacact tcacatctga 480
 acacctaaact gctgttgctc ctgaggtggg gaaagacaga tatagagctt acagtattta 540
 tcctatttct aggcactgag ggctgtgggg taccttgtgg tgccaaaaca gatcctgttt 600
 taaggacatg ttgcttcaga gatgtctgta actatctggg ggctctgttg gctctttacc 660
 ctgcatcatg tgctctcttg gctgaaaatg acc 693

<210> 438
 <211> 360
 <212> DNA
 <213> Homo sapiens

<400> 438
 ctgcttatca caatgaatgt tctcctgggc agcgttggtga tctttgccac cttcgtgact 60
 ttatgcaatg catcatgcta tttcatacct aatgagggag ttccaggaga ttcaaccagg 120
 atgtttctac acctgtgggt tatgacaaag acaactgccca aagaatcttc aagaaggagg 180
 actgcaagta tatctggttg agaagaagga cccaaaaaag acctgttctg tcagtgaatg 240
 gataatctaa tgtgcttcta gtaggcacag ggctcccagg ccaggcctca ttctcctctg 300
 gcctctaata gtcaataatt gtgtagccat gcctatcagt aaaaagattt ttgagcaaac 360

<210> 439
 <211> 431
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature

140

<222> (1)...(431)

<223> n = A,T,C or G

<400> 439

```

gttcctnnta actcctgcc a gaaacagctc tcctcaacat gagagctgca cccctcctcc 60
tggccagggc agcaagcctt agccttggct tcttgtttct gctttttttc tggctagacc 120
gaagtgtact agccaaggag ttgaagtttg tgactttggg gtttcggcat ggagaccgaa 180
gtcccattga cacctttccc actgacccca taaaggaatc ctcatggcca caaggatttg 240
gccaaactcac ccagctgggc atggagcagc attatgaact tggagagtat ataagaaaga 300
gatatagaaa attccttgaat gagtcctata aacatgaaca ggtttatatt cgaagcacag 360
acgttgaccg gactttgatg agtgctatga caaacctggc agcccgtcga cgcggccgcg 420
aatttagtag t

```

431

<210> 440

<211> 523

<212> DNA

<213> Homo sapiens

<400> 440

```

agagataaag cttagggtcaa agttcataga gttcccatga actatatgac tggccacaca 60
ggatcttttg tatttaagga ttctgagatt ttgcttgagc aggattagat aaggctgttc 120
tttaaagtgc tgaaatggaa cagatttcaa aaaaaaaccc cacaatctag ggtgggaaca 180
aggaaggaaa gatgtgaata ggctgatggg caaaaaacca atttaccat cagttccagc 240
cttctctcaa ggagaggcaa agaaaggaga tacagtggag acatctgaa agttttctcc 300
actggaaaac tgctactatc tgtttttata tttctgttaa aatatatgag gctacagaac 360
taaaaattaa aacctctttg tgtcccttgg tcctggaaca tttatgttcc ttttaaagaa 420
acaaaaatca aactttacag aaagatttga tgatgtaat acatatagca gctcttgaag 480
tatatatatc atagcaaata agtcatctga tgagaacaag cta

```

523

<210> 441

<211> 430

<212> DNA

<213> Homo sapiens

<400> 441

```

gttcctccta actcctgcc a gaaacagctc tcctcaacat gagagctgca cccctcctcc 60
tggccagggc agcaagcctt agccttggct tcttgtttct gctttttttc tggctagacc 120
gaagtgtact agccaaggag ttgaagtttg tgactttggg gtttcggcat ggagaccgaa 180
gtcccattga cacctttccc actgacccca taaaggaatc ctcatggcca caaggatttg 240
gccaaactcac ccagctgggc atggagcagc attatgaact tggagagtat ataagaaaga 300
gatatagaaa attccttgaat gagtcctata aacatgaaca ggtttatatt cgaagcacag 360
acgttgaccg gactttgatg agtgctatga caaacctggc agcccgtcga cgcggccgcg 420
aatttagtag

```

430

<210> 442

<211> 362

<212> DNA

<213> Homo sapiens

<400> 442

```

ctaaggaatt agtagtggtc ccatcacttg tttggagtgt gctattctaa aagattttga 60
tttcctggaa tgacaattat attttaactt tgggtgggga aagagttata ggaccacagt 120
cttcacttct gatacttgta aattaatctt ttattgcact tgttttgacc attaagctat 180
atgtttagaa atggtcattt tacggaaaaa ttagaaaaat tctgataata gtgcagaata 240
aatgaattaa tgttttactt aatttatatt gaactgtcaa tgacaaataa aaattctttt 300
tgattatttt ttgttttcat ttaccagaat aaaaactaag aattaaaagt ttgattacag 360
tc

```

362

<210> 443

<211> 624

<212> DNA

<213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(624)
 <223> n = A,T,C or G

<400> 443
 tttttttttt gcaacacaat atacatcaca gtgaaatgtg taatccttgc aaattgcaag 60
 ttgaaagaat taaattcaga ggaggggaga gaaagagtag tcagtaggga ctgagcacta 120
 aatgcttatt ttaaaagaaa tgtaaagagc agaaagcaat tcaggctacc ctgccttttg 180
 tgctggctag tactccggtc ggtgtcagca gcacgtggca ttgaacattg caatgtggag 240
 cccaaaccac agaaaatggg gtgaaattgg ccaactttct attaaacttg cttcctgttt 300
 tataaaatat tgtgaataat atcacctact tcaaagggca gttatgaggc ttaaataaac 360
 taacgcctac aaaacactta aacatagata acatagggtgc aagtactatg tatctggtac 420
 atggtaaaca tccttattat taaagtcaac gctaaaatga atgtgtgtgc atatgctaata 480
 agtacagaga gagggcactt aaaccaacta agggcctgga gggaagggtt cctggaaaaga 540
 ngatgcttgt gctgggtcca aatcttgggt tactatgacc ttggcctaat tatttaaact 600
 ttgtccctat ctgctaaaca gatc 624

<210> 444
 <211> 425
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(425)
 <223> n = A,T,C or G

<400> 444
 gcacatcatt nntcttgcatt tctttgagaa taagaagatc agtaaatagt tcagaagtgg 60
 gaagctttgt ccaggcctgt gtgtgaaccc aatgttttgc ttagaaatag aacaagtaag 120
 ttcattgcta tagcataaca caaaatttgc ataagtgggtg gtcagcaaat ccttgaatgc 180
 tgcttaattg gagagggttg taaaatcctt tgtgcaacac tctaactccc tgaatgtttt 240
 gctgtgctgg gacctgtgca tgccagacaa ggccaagctg gctgaaagag caaccagcca 300
 cctctgcaat ctgccacctc ctgctggcag gatttgtttt tgcatactgt gaagagccaa 360
 ggaggcacca gggcataagt gagtagactt atggctcgacg cggccgcgaa tttagtagta 420
 gtaga 425

<210> 445
 <211> 414
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(414)
 <223> n = A,T,C or G

<400> 445
 catgtttatg nttttggatt actttgggca cctagtgttt ctaaactcgtc tatcattctt 60
 ttctgttttt caaaagcaga gatggccaga gtctcaacaa actgtatctt caagtctttg 120
 tgaaattctt tgcattgtggc agattatttg atgtagtctt ctttaactag catataaatc 180
 tgggtgtgttt cagataaatg aacagcaaaa tgtggtggaa ttaccatttg gaacattgtg 240
 aatgaaaaat tgtgtctcta gattatgtaa caaataacta ttctctaacc attgatcttt 300
 ggatttttat aatcctactc acaaatgact aggccttctc tcttgtattt tgaagcagtg 360
 tgggtgctgg attgataaaa aaaaaaaaaa tgcacgcggc cgcgaattta gtag 414

<210> 446
 <211> 631
 <212> DNA
 <213> Homo sapiens

142

<220>
 <221> misc_feature
 <222> (1)...(631)
 <223> n = A,T,C or G

<400> 446
 acaaattaga anaaagtgcc agagaacacc acataccttg tccggaacat tacaatggct 60
 tctgcatgca tgggaagtgt gagcattcta tcaatatgca ggagccatct tgcaggtgtg 120
 atgctgggta tactggacaa cactgtgaaa aaaaggacta cagtgttcta tacgttggtc 180
 ccggtcctgt acgatttcag tatgtcttaa tcgcagctgt gattggaaca attcagattg 240
 ctgtcatctg tgtgggtggc ctctgcatca caagggccaa actttaggta atagcattgg 300
 actgagattt gtaaaccttc caaccttcca ggaaatgccc cagaagcaac agaattcaca 360
 gacagaagca aaatacaggg cactacagtt cagacaatac aacaagagcg tccacgaggt 420
 taatctaaag ggagcatgtt tcacagtggc tggactaccg agagcttgga ctacacaata 480
 cagtattata gacaaaagaa taagacaaga gatctacaca tgttgccctg catttggtgt 540
 aatctacacc aatgaaaaca tgtactacag ctatatattg ttatgtatgg atatatttga 600
 aatagtatac attgtcttga tgttttttct g 631

<210> 447
 <211> 585
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(585)
 <223> n = A,T,C or G

<400> 447
 ccttgggaaa antntcacaa tataaagggt cgtagacttt actccaaatt ccaaaaagggt 60
 cctggccatg taatcctgaa agttttccca aggtagctat aaaatcctta taagggtgca 120
 gcctcttctg gaattcctct gatttcaaa gttcactctc aagttcttga aaacgagggc 180
 agttcctgaa aggcaggtat agcaactgat ctacagaaag aggaactgtg tgcaccggga 240
 tgggctgcca gagtaggata ggattccaga tgctgacacc ttctggggga aacagggctg 300
 ccagggttgt catagcactc atcaaagtcc ggtcaacgtc tgtgcttcga atataaacct 360
 gttcatgttt ataggactca ttcaagaatt ttctatatct ctttcttata tactctccaa 420
 gttcataatg ctgctccatg cccagctggg tgagttggcc aaatccttgt ggccatgagg 480
 attcctttat ggggtcagtg ggaaagggtg caatgggact tccgtctcca tgccgaaaca 540
 ccaaagtcac aaacttcaac tccttggtgta gtacacttcg gtcta 585

<210> 448
 <211> 93
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(93)
 <223> n = A,T,C or G

<400> 448
 tgctcgtggg tcattctgan nccgaaactg acctgccag ccctgccgan gggccnccat 60
 ggctccctag tgccctggag agganggggc tag 93

<210> 449
 <211> 706
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature

<222> (1)...(706)

<223> n = A,T,C or G

<400> 449

```

ccaagttcat gctntgtgct ggacgctgga caggggggcaa aagcnnttgc tcgtgggtca 60
ttctgancac cgaactgacc atgccagccc tgccgatggc cctccatggc tccctagtgc 120
cctggagagg aggtgtctag tcagagagta gtcctggaag gtggcctctg ngaggagcca 180
cggggacagc atcctgcaga tggtcgggcg cgtcccatc gccattcagg ctgcgcaact 240
gttggaagg gcgatcgggtg cgggcctctt cgctattacg ccagctggcg aaagggggat 300
gtgctgcaag gcgattaagt tgggtaacgc cagggttttc ccagtcncga cgttgtaaaa 360
cgacggccag tgaattgaat ttaggtgacn ctatagaaga gctatgacgt cgcatgcacg 420
cgtacgtaag cttggatcct ctagagcggc cgcctactac tactaaattc gcggccgcgt 480
cgacgtggga tccnccactga gagagtggag agtgacatgt gctggacnct gtccatgaag 540
cactgagcag aagctggagg cacaacgcnc cagacactca cagctactca ggaggctgag 600
aacaggttga acctgggagg tggaggttgc aatgagctga gatcaggccn ctgcncacca 660
gcatggatga cagagtgaaa ctccatctta aaaaaaaaaa aaaaaa 706

```

<210> 450

<211> 493

<212> DNA

<213> Homo sapiens

<400> 450

```

gagacggagt gtcactctgt tgcccaggct ggagtgcagc aagacactgt ctaagaaaaa 60
acagttttta aaggtaaaac aacataaaaa gaaataticc atagtggaaa taagagagtc 120
aaatgaggct gagaacttta caaagggatc ttacagacat gtcgccaata tcaactgcatg 180
agcctaagta taagaacaac ctttggggag aaaccatcat ttgacagtga ggtacaattc 240
caagtcagggt agtgaaatgg gtggaattaa actcaaatta atcctgccag ctgaaacgca 300
agagacactg tcagagagtt aaaaagttag ttctatccat gaggtgattc cacagtcttc 360
tcaagtcaac acatctgtga actcacagac caagttctta aaccactgtt caaactctgc 420
tacacatcag aatcacctgg agagctttac aaactcccat tgccgagggg cgacgcggcc 480
gcgaatttag tag 493

```

<210> 451

<211> 501

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(501)

<223> n = A,T,C or G

<400> 451

```

ggggcgctcc cattcgccat tcaggctgcg caactgttgg gaagggcgat cgggtgcgggc 60
ctcttcgcta ttacgccagc tggcgaaagg gggatgtgct gcaaggcgat taagttgggt 120
aacgccagggt ttttcccagt cncgacgttg taaaacgacg gccagtgaat tgaatttagg 180
tgacnctata gaagagctat gacgtcgcat gcacgcgtac gtaagcttgg atcctctaga 240
gcggccgcct actactacta aattcgcggc cgcgtcgacg tgggatccnc actgagagag 300
tggagagtga catgtgctgg acnctgtcca tgaagcactg agcagaagct ggaggcacia 360
cgcncacagc actcacagct actcaggagg ctgagaacag gttgaacctg ggaggtggag 420
gttgcaatga gctgagatca ggccnctgcn ccccgacatg gatgacagag tgaaactcca 480
tcttaaaaaa aaaaaaaaaa a 501

```

<210> 452

<211> 51

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(51)

144

<223> n = A,T,C or G

<400> 452

agacggtttc accntttacaa cnccttttag gatgggnntt ggggagcaag c 51

<210> 453

<211> 317

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(317)

<223> n = A,T,C or G

<400> 453

tacatcttgc	tttttcccca	ttggaactag	tcattaaccc	atctctgaac	tggtagaaaa	60
acatctgaag	agctagtcta	tcagcatctg	gcaagtgaat	tggtatgggtc	tcagaaccat	120
ttcaccana	cagcctgttt	ctatcctgtt	taataaatta	gtttgggttc	tctacatgca	180
taacaaaccc	tgctccaatc	tgtcacataa	aagtctgtga	cttgaagttt	antcagcacc	240
cccacaaac	tttatttttc	tatgtgtttt	ttgcaacata	tgagtgtttt	gaaaataagg	300
tacccatgtc	tttatta					317

<210> 454

<211> 231

<212> DNA

<213> Homo sapiens

<400> 454

ttcgaggtac	aatcaactct	cagagtgtag	tttccttcta	tagatgagtc	agcattaata	60
taagccacgc	cacgctcttg	aaggagtctt	gaattctcct	ctgctcactc	agtagaacca	120
agaagaccaa	attcttctgc	atcccagctt	gcaaacaaaa	ttgttcttct	aggtctccac	180
ccttcctttt	tcagtgttcc	aaagctcctc	acaatttcat	gaacaacagc	t	231

<210> 455

<211> 231

<212> DNA

<213> Homo sapiens

<400> 455

taccaaagag	ggcataataa	tcagtctcac	agtaggggtc	accatcctcc	aagtgaaaaa	60
cattgttccg	aatgggcttt	ccacaggcta	cacacacaaa	acaggaaaca	tgccaagttt	120
gtttcaacgc	attgatgact	tctccaagga	tcttcctttg	gcatcgacca	cattcagggg	180
caaagaattt	ctcatagcac	agctcacaat	acagggctcc	tttctcctct	a	231

<210> 456

<211> 231

<212> DNA

<213> Homo sapiens

<400> 456

ttggcaggta	cccttacaaa	gaagacacca	taccttatgc	gttattaggt	ggaataatca	60
ttccattcag	tattatcggt	attattcttg	gagaaacctt	gtctgtttac	tgtaaccttt	120
tgcaactcaa	ttcctttatc	aggaataact	acatagccac	tatttacaaa	gccattggaa	180
cctttttatt	tggtgcagct	gctagtcagt	ccctgactga	cattgccaag	t	231

<210> 457

<211> 231

<212> DNA

<213> Homo sapiens

<220>

145

<221> misc_feature
 <222> (1)...(231)
 <223> n = A,T,C or G

<400> 457
 cgaggtaccc aggggtctga aaatctctnn ttantagtc gatagcaaaa ttgttcatca 60
 gcattcctta atatgatctt gctataatta gatttttctc cattagagtt catacagttt 120
 tatttgattt tattagcaat ctctttcaga agacccttga gatcattaag ctttgtatcc 180
 agttgtctaa atcgatgcct catttcctct gaggtgtcgc tggcttttgt g 231

<210> 458
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 458
 aggtctgggt cccccactt ccactcccct ctactctctc taggactggg ctgggccaaag 60
 agaagagggg tggtaggga agccgttgag acctgaagcc ccaccctcta ccttccttca 120
 acaccctaac ctgggtaac agcatttgga attatcattt gggatgagta gaatttccaa 180
 ggtcctgggt taggcatttt gggggggccag accccaggag aagaagattc t 231

<210> 459
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 459
 ggtaccgagg ctgcgtgaca cagagaaacc ccaacgcgag gaaaggaatg gccagccaca 60
 ccttcgcgaa acctgtgggt gccaccagt cctaacggga caggacagag agacagagca 120
 gccctgcact gttttccctc caccacagcc atcctgtccc tcattggctc tgtgctttcc 180
 actatacaca gtcaccgtcc caatgagaaa caagaaggag caccctccac a 231

<210> 460
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 460
 gcaggtataa catgctgcaa caacagatgt gactaggaac ggccggtgac atggggaggg 60
 cctatcaccc tattcttggg ggctgttctc tcacagtgt catgaagcct agcagcaaat 120
 cccacctccc cacacgcaca cggccagcct ggagcccaca gaagggtcct cctgcagcca 180
 gtggagcttg gtccagcctc cagtccaccc ctaccaggct taaggataga a 231

<210> 461
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 461
 cgaggtttga gaagctctaa tgtgcagggg agccgagaag caggcggcct agggagggtc 60
 gcgtgtgctc cagaagagtg tgtgcatgcc agaggggaaa caggcgcctg tgtgtcctgg 120
 gtggggttca gtgaggagtg ggaaattggg tcagcagaac caagccgttg ggtgaataag 180
 agggggattc catggcactg atagagccct atagtctcag agctgggaat t 231

<210> 462
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 462
 aggtaccctc attgtagcca tgggaaaatt gatgttcagt ggggatcagt gaattaaatg 60
 gggatcatgca agtataaaaa ttaaaaaaaa aagacttcat gcccaatctc atatgatgtg 120

146

gaagaactgt tagagagacc aacagggtag tgggtagag atttccagag tcttacattt 180
tctagaggag gtattttaatt tcttctcact catccagtgt tgtatttagg a 231

<210> 463

<211> 231

<212> DNA

<213> Homo sapiens

<400> 463

tactccagcc tggtagacaga gcgagaccct atcacgcgcc cccaccccac caaaaaaaaaa 60
actgagtaga cagggtgcct cttggcatgg taagtcttaa gtcccctccc agatctgtga 120
catttgacag gtgtcttttc ctctggacct cgggtgtcccc atctgagtga gaaaaggcag 180
tggggagggtg gatcttcag tcgaagcggg atagaagccc gtgtgaaaag c 231

<210> 464

<211> 231

<212> DNA

<213> Homo sapiens

<400> 464

gtactctaag attttatcta agttgccttt tctgggtggg aaagttaac cttagtgtgact 60
aaggacatca catatgaaga atgtttaagt tggagggtggc aacgtgaatt gcaaacaggg 120
cctgcttcag tgactgtgtg cctgtagtcc cagctactcg ggagtctgtg tgaggccagg 180
gggtgccagcg caccagctag atgctctgta acttctaggc cccattttcc c 231

<210> 465

<211> 231

<212> DNA

<213> Homo sapiens

<400> 465

catgttggtg tagctgtggt aatgctggct gcatctcaga cagggttaac ttcagctcct 60
gtggcaaat agcaacaaat tctgacatca tatttatggt ttctgtatct ttgttgatga 120
aggatggcac aatttttgct tgtgttcata atatactcag attagtccag ctccatcaga 180
taaactggag acatgcagga cattagggta gtgtgttagc tctggtaatg a 231

<210> 466

<211> 231

<212> DNA

<213> Homo sapiens

<400> 466

caggtaacct tttccattgg atactgtgct agcaagcatg ctctccgggg tttttttaat 60
ggccttcgaa cagaacttgc cacataccca ggtataatag tttctaacat ttgccaggga 120
cctgtgcaat caaatattgt ggagaattcc cttagctggag aagtcacaaa gactataggc 180
aataatggag accagtccca caagatgaca accagtcgtt gtgtgcggct g 231

<210> 467

<211> 311

<212> DNA

<213> Homo sapiens

<400> 467

gtacaccctg gcacagtcca atctgaactg gttcggcact catctttcat gagatggatg 60
tgggtggcttt tctccttttt catcaagact cctcagcagg gagcccagac cagcctgcac 120
tgtgccttaa cagaaggctt tgagattcta agtgggaatc atttcagtga ctgtcatgtg 180
gcatgggtct ctgcccaagc tegttaatgag actatagcaa ggcggctgtg ggacgtcagt 240
tgtgacctgc tgggcctccc aatagactaa caggcagtgc cagttggacc caagagaaga 300
ctgcagcaga c 311

<210> 468

<211> 3112

<212> DNA

<213> Homo sapiens

<400> 468

```
cattgtgttg ggagaaaaac agaggggaga tttgtgtggc tgcagccgag ggagaccagg 60
aagatctgca tgggtgggaag gacctgatga tacagagttt gataggagac aattaaaggc 120
tggaaggcac tggatgcctg atgatgaagt ggactttcaa actggggcac tactgaaacg 180
atgggatggc cagagacaca ggagatgagt tggagcaagc tcaataacaa agtgggtcaa 240
cgaggacttg gaattgcatg gagctggagc tgaagtttag cccaattgtt tactagttag 300
gtgaatgtgg atgattggat gatcatttct catctctgag cctcagggtt cccatccata 360
aaatgggata cacagtatga tctataaagt gggatatagt atgatctact tctactgggt 420
atttgaagga tgaattgaga taatttattt cagggtgccta gaacaatgcc cagattagta 480
catttgggtg aactgagaaa tggcataaca ccaaatttaa tatatgtcag atgttactat 540
gattatcatt caatctcata gttttgtcat ggcccaattt atcctcactt gtgcctcaac 600
aaattgaact gttaacaaag gaatctctgg tcttgggtaa tggctgagca cctactgagca 660
tttccattcc agttggcttc ttgggtttgc tagctgcata actagtcata ttaaataaat 720
gaagttttaa catttctcca gtgatttttt tatctcacct ttgaagatac tatgttatgt 780
gattaaataa agaacttgag aagaacaggt ttcattaaac ataaaatcaa tgtagacgca 840
aattttctgg atgggcaata cttatgttca caggaaatgc tttaaaatat gcagaagata 900
attaaatggc aatggacaaa gtgaaaaact tagacttttt tttttttttt ggaagtatct 960
ggatgttcct tagtcactta aaggagaact gaaaaatagc agtgagttcc acataatcca 1020
acctgtgaga ttaaggctct ttgtggggaa ggacaaagat ctgtaaattt acagtttctt 1080
tccaaagcca acgtcgaatt ttgaaacata tcaaagctct tcttcaagac aaataatcta 1140
tagtacatct ttcttatggg atgcacttat gaaaaatggg ggctgtcaac atctagtcac 1200
tttagctctc aaaatggttc attttaagag aaagtttttag aatctcatat ttattcctgt 1260
ggaaggacag cattgtggct tggactttat aaggtcttta ttcaactaaa taggtgagaa 1320
ataagaaagg ctgctgactt taccatctga ggccacacat ctgctgaaat ggagataatt 1380
aacatcacta gaaacagcaa gatgacaata taatgtctaa gtagtgacat gtttttgcac 1440
atttccagcc cctttaaata tccacacaca cagggaagcac aaaaggaagc acagagatcc 1500
ctgggagaaa tgcctggcgc ccatcttggg tcatcgatga gcctcgccct gtgcctgggtc 1560
ccgcttgtga gggaaggaca ttagaaaatg aattgatgtg ttccttaaag gatgggcagg 1620
aaaacagatc ctgttgtgga tatttatattg aacgggatta cagatttgaa atgaagtac 1680
aaagttagca ttaccaatga gaggaaaaa gacgagaaaa tcttgatggc ttcacaagac 1740
atgcaacaaa caaaatggaa tactgtgatg acatgaggca gccaaagctg ggaggagata 1800
accacggggc agagggtcag gattctgggc ctgctgccta aactgtgcgt tcataaccaa 1860
atcatttcat atttctaacc ctcaaaacaa agctgttgta atatctgac tctacggttc 1920
cttctgggcc caacattctc catatatcca gccacactca tttttaatat ttagtccca 1980
gatctgtact gtgaccttcc tacactgtag aataacatta ctcattttgt tcaaagacct 2040
ttcgtgttgc tgcctaatat gtagctgact gtttttccca aggagtgttc tggcccaggg 2100
gatctgtgaa caggctggga agcatctcaa gatctttcca ggggtatact tactagcaca 2160
cagcatgac attacggagt gaattatcta atcaacatca tcctcagtgt ctttgcccat 2220
actgaaattc atttccact tttgtgcca ttctcaagac ctcaaaatgt cattccatta 2280
atatcacagg attaaacttt ttttttaacc tggaagaatt caatgttaca tgcagctatg 2340
ggaatttaat tacatatattt gttttccagt gcaaagatga ctaagtcctt tatccctccc 2400
ctttgtttga ttttttttcc agtataaagt taaaatgctt agccttgtag tgaggctgta 2460
tacagccaca gcctctcccc atccctccag ccttatctgt catcaccatc aaccctccc 2520
atgcacctaa acaaaatcta acttgaatt ccttgaacat gtcaggcata cattattcct 2580
tctgcctgag aagctcttcc ttgtctctta aatctagaat gatgtaaagt tttgaataag 2640
ttgactatct tacttcatgc aaagaaggga cacatatgag attcatcatc acatgagaca 2700
gcaaatacta aaagtgtaat ttgattataa gagtttagat aaatatatga aatgcaagag 2760
ccacagagg aatgtttatg gggcacgttt gtaagcctgg gatgtgaagc aaaggcaggg 2820
aacctcatag tatcttatat aatatacttc atttctctat ctctatcaca atatccaaca 2880
agcttttcac agaattcatg cagtgc aaat ccccaaagggt aacctttatc catttcatgg 2940
tgagtgcgct ttagaatttt ggcaaatcat actggtcact tatctcaact ttgagatgtg 3000
tttgtccttg tagttaattg aaagaaatag ggcactcttg tgagccactt tagggttcac 3060
tcttggcaat aaagaattta caaagagcaa aaaaaaaaaa aaaaaaaaaa aa 3112
```

<210> 469

<211> 2229

<212> DNA

<213> Homo sapiens

<400> 469

```

agctctttgt aaattcttta ttgccaggag tgaaccctaa agtgggtcac aagagtgcc 60
tatttctttc aattaactac aaggacaaac acatctcaaa gttgagataa gtgaccagta 120
tgatttgcca aaattctaaa gcgcactcac catgaaatgg ataaaggtta cctttgggga 180
tttgactgc atgaattctg tgaagagctt gttggatatt gtgatagaga tagagaaatg 240
aagtatatta tataagatac tatgagggtc cctgcctttg cttcacatcc caggcttaca 300
aacgtgcccc ataaacattc cctctgtggc tcttgcatct catatattta tctaaactct 360
tataatcaaa tacactttta gtatttgctg tctcatgtga tgatgaatct catatgtgtc 420
ccttctttgc atgaagtaag atagtcaact tattcaaaac tttacatcat tctagattta 480
agagacaagg aagagcttct caggcagaag gaataatgta tgcctgacat gttcaaggaa 540
ttacaagtta gattttgttt aggtgcatgg gaggggttga tgggtgatgac agataaggct 600
ggagggatgg ggagaggctg tggctgtata cagcctcagt acaaggctaa gcattttaac 660
tttatactgg aaaaaaaatc aaacaaaggg gagggataaa ggacttagtc atctttgcac 720
tggaatacaa aatatgtaat taaattccca tagctgcatg taacattgaa ttcttcagg 780
ttaaaaaaaa agttaatcct gtgatattaa tggaaatgaca ttttgaggtc ttgagaatgg 840
gcacaaaagt gggaaatgaa ttccagtatg ggcaaaagaca ctgaggatga tgttgattag 900
ataattcact ccgtaatgat catgctgtgt gctagtaagt ataaccctgg aaagatcttg 960
agatgcttcc cagcctgttc acagatcccc tgggccagaa cactccttag gaaaaacagt 1020
cagctacata ttaggcagca acacgaaggg tctttgaaca aaatgagtaa tgttattcta 1080
cagtgtagaa aggtcacagt acagatctgg gaactaaata ttaaaaatga gtgtggctgg 1140
atatatggag aatgttgggc ccagaaggaa ccgtagagat cagatattac aacagctttg 1200
ttttgagggt tagaaatatg aaatgatttg gttatgaacg cacagttag gcagcagggc 1260
cagaatcctg accctctgcc ccgtggttat ctcctcccca gcttggctgc ctcatgtcat 1320
cacagtattc cattttgttt gttgcatgtc ttgtgaagcc atcaagattt tctcgtctgt 1380
tttctctca ttggtaatgc tcactttgtg acttcatttc aaatctgtaa tcccgttcaa 1440
ataaatatcc acaacaggat ctgttttctt gccatcctt taaggaaacac atcaattcat 1500
tttctaattg ccttccctca caagcgggac caggcacagg gcgaggctca tcgatgacc 1560
aagatggcgg ccgggcattt ctcccaggga tctctgtgct tccttttgtg cttcctgtgt 1620
gtgtggatat ttaaaggggc tggaatgtg caaaaacatg tcaactacta gacattata 1680
tgtcatcttg ctgtttctag tgatgttaat tatctccatt tcagcagatg tgtggcctca 1740
gatggtaaag tcagcagcct ttcttatttc tcacctggaa atacatacga ccatttgagg 1800
agacaaatgg caaggtgtca gcataccctg aacttgagtt gagagctaca cacaatatta 1860
ttggtttccg agcatcacia acaccctctc tgtttcttca ctgggcacag aattttaata 1920
cttatttcag tgggctgttg gcaggaacaa cccctctaga ctacataaag tcactagtgc 1980
agtgcctgac acacaccatt ctcttgaggt cccctctaga gatccacag gtcataatga 2040
ttcttgggga gcagtggctc acacctgtaa tcccagcact ttgggaggct gaggcagggt 2100
ggtcacctga ggtcaggagt tcaagaccag cctggccaat atggtgaaac cccatctcta 2160
ctaaaaatag aaaaattagc tgggcgtgct ggtgcatgcc tgtaatccca gccccaacac 2220
aatggaatt
2229

```

<210> 470

<211> 2426

<212> DNA

<213> Homo sapiens

<400> 470

```

gtaaattctt tattgccagg agtgaaccct aaagtggctc acaagagtgc cctatttctt 60
tcaattaact acaaggacaa acacatctca aagttgagat aagtgaccag tatgatttgc 120
caaaattcta aagcgactc accatgaaat ggataaagggt tacctttggg gatttgcact 180
gcatgaattc tgtgaaaagc ttgttgata ttgtgataga gatagagaaa tgaagtatat 240
tatataagat actatgaggt tccctgcctt tgcttcacat cccaggctta caaacgtgcc 300
ccataaacat tccctctgtg gctcttgcac ttcatatatt tatctaaact cttataatca 360
aattacactt ttagtatttg ctgtctcatg tgatgatgaa tctcatatgt gtcccttctt 420
tgcattgaag aagatagtca acttattcaa aactttacat cattctagat ttaagagaca 480
aggaagagct tctcaggcag aaggaataat gtatgctga catgttcaag gaattacaag 540
ttagattttg tttaggtgca tgggagggtt tgatggtgat gacagataag gctggaggga 600
tggggagagg ctgtggctgt atacagcctc agtacaaggc taagcatttt aactttatac 660
tggaataaaa atcaaacaaa ggggagggat aaaggactta gtcattcttg cactggaaaa 720
caaaatatgt aattaaattc ccatagctgc atgtaacatt gaattcttcc aggttaaaaa 780
aaaaagttaa tctgtgata ttaatggaat gacattttga ggtcttgaga atgggcacaa 840
aagtgggaaa tgaatttcag tatgggcaaa gacactgagg atgatgttga ttagataatt 900
cactccgtaa tgatcatgct gtgtgctagt aagtataacc ctggaaagat cttgagatgc 960

```

ttcccagcct	gttcacagat	cccctgggcc	agaacactcc	ttaggaaaaa	cagtcagcta	1020
catattaggc	agcaacacga	agggctcttg	aacaaaatga	gtaatgttat	tctacagtgt	1080
agaaaggcca	cagtacagat	ctgggaacta	aatattaaaa	atgagtgtgg	ctggatatat	1140
ggagaatgtt	gggcccagaa	ggaaccgtag	agatcagata	ttacaacagc	tttgttttga	1200
gggttagaaa	tatgaaatga	tttggttatg	aacgcacagt	ttaggcagca	gggccagaat	1260
cctgaccctc	tgccccgtgg	ttatctcctc	cccagcttgg	ctgcctcatg	tcatcacagt	1320
attccatttt	gtttgttgca	tgtcttggtg	agccatcaag	attttctcgt	ctgttttcct	1380
ctcattggta	atgctcactt	tgtgacttca	tttcaaactc	gtaatcccgt	tcaaataaat	1440
atccacaaca	ggatctgttt	tctgcccatt	cctttaagga	acacatcaat	tcatttttcta	1500
atgtccttcc	ctcacaagcg	ggaccaggca	cagggcgagg	ctcatcgatg	acccaagatg	1560
gcgcccgggc	atttctccca	gggatctctg	tgttctcttt	tgtgcttcct	gtgtgtgtgg	1620
atatattaaag	gggctggaaa	tgtgcaaaaa	catgtcacta	cttagacatt	atattgtcat	1680
cttgctggtt	ctagtgtgtg	taattatctc	catttcagca	gatgtgtggc	ctcagatggt	1740
aaagtcagca	gcctttctta	tttctcacct	ggaaatacat	acgaccattt	gaggagacaa	1800
atggcaagggt	gtcagcatac	cctgaacttg	agttgagagc	tacacacaat	attattgggt	1860
tccgagcatc	acaaacaccc	tctctgtttc	ttcactgggc	acagaatttt	aatacttatt	1920
tcagtgggct	gttggcagga	acaaatgaag	caatctacat	aaagtcacta	gtgcagtggc	1980
tgacacacac	cattctcttg	aggtcccctc	tagagatccc	acaggtcata	tgacttcttg	2040
gggagcagtg	gctcacacct	gtaatcccag	cactttggga	ggctgaggca	ggtgggtcac	2100
ctgaggtcag	gagttcaaga	ccagcctggc	caatatgggt	aaaccccatc	tctactaaaa	2160
atacaaaaat	tagctgggcg	tgtgtgtgca	tgcctgtaat	cccagctact	tgggaggctg	2220
aggcaggaga	attgctggaa	catgggaggc	ggaggttgca	gtgagctgta	attgtgccat	2280
tgcactcgaa	cctgggcgac	agagtggaac	tctgtttcca	aaaaacaaac	aaacaaaaaa	2340
ggcatagtca	gatacaacgt	gggtgggatg	tgtaaataga	agcaggatat	aaagggcatg	2400
gggtgacggt	tttgcccaac	acaatg				2426

<210> 471

<211> 812

<212> DNA

<213> Homo sapiens

<400> 471

gaacaaaatg	agtaatgtta	ttctacagtg	tagaaaggct	acagtacaga	tctgggaact	60
aaatattaaa	aatgagtgtg	gctggatata	tggagaatgt	tgggcccaga	aggaaccgta	120
gagatcagat	attacaacag	ctttgttttg	agggtagaaa	atatgaaatg	atttggttat	180
gaacgcacag	tttaggcagc	agggccagaa	tctgaccctt	ctgccccgtg	gttatctcct	240
ccccagcttg	gctgcctcat	gtcatcacag	tattccattt	tgtttgttgc	atgtcttgtg	300
aagccatcaa	gattttctcg	tctgttttcc	tctcattggt	aatgctcact	ttgtgacttc	360
atttcaaate	tgtaatcccg	ttcaaataaa	tatccacaac	aggatctgtt	ttcctgcca	420
tcctttaagg	aacacatcaa	ttcattttct	aatgtccttc	cctcacaagc	gggaccaggc	480
acagggcgag	gctcatcgat	gacccaagat	ggcggccggg	catttctccc	agggatctct	540
gtgcttcctt	ttgtgcttcc	tgtgtgtgtg	gatatttaaa	ggggctggaa	atgtgcaaaa	600
acatgtcact	acttagacat	tatattgtca	tcttgctgtt	tctagtgtat	tttaattatct	660
ccatttcagc	agatgtgtgg	cctcagatgg	taaagtcagc	agcctttctt	atttctcacc	720
tctgtatcat	caggtccttc	ccaccatgca	gatcttctg	gtctcctcgt	gctgcagcca	780
cacaaatctc	ccctctgttt	ttctgatgcc	ag			812

<210> 472

<211> 515

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(515)

<223> n = A,T,C or G

<400> 472

acggagactt	attttctgat	attgtctgca	tatgtatggt	tttaagagtc	tggaaatagt	60
cttatgactt	tcctatcatg	cttattaata	aataatacag	cccagagaag	atgaaaatgg	120
gttccagaat	tattgttcct	tgacgcccgg	tgaatctcag	caagaggaac	caccaactga	180
caatcaggat	attgaacctg	gacaagagag	agaaggaaca	cctccgatcg	aagaacgtaa	240

150

```

agtagaaggt gattgccagg aaatggatct ggaaaagact cggagtgagc gtggagatgg 300
ctctgatgta aaagagaaga ctccacctaa tcctaagcat gctaagacta aagaagcagg 360
agatggggcag ccataagtta aaaagaagac aagctgaagc tacacacatg gctgatgtca 420
cattgaaaat gtgactgaaa atttgaaaat tctctcaata aagtttgagt tttctctgaa 480
gaaaaaaaaa naaaaaaaaa aaanaaaaaa aaaaaa 515

```

<210> 473
 <211> 750
 <212> PRT
 <213> Homo sapiens

<400> 473

```

Met Trp Asn Leu Leu His Glu Thr Asp Ser Ala Val Ala Thr Ala Arg
      5                                10                        15

Arg Pro Arg Trp Leu Cys Ala Gly Ala Leu Val Leu Ala Gly Gly Phe
      20                                25                        30

Phe Leu Leu Gly Phe Leu Phe Gly Trp Phe Ile Lys Ser Ser Asn Glu
      35                                40                        45

Ala Thr Asn Ile Thr Pro Lys His Asn Met Lys Ala Phe Leu Asp Glu
      50                                55                        60

Leu Lys Ala Glu Asn Ile Lys Lys Phe Leu Tyr Asn Phe Thr Gln Ile
      65                                70                        75                        80

Pro His Leu Ala Gly Thr Glu Gln Asn Phe Gln Leu Ala Lys Gln Ile
      85                                90                        95

Gln Ser Gln Trp Lys Glu Phe Gly Leu Asp Ser Val Glu Leu Ala His
      100                               105                        110

Tyr Asp Val Leu Leu Ser Tyr Pro Asn Lys Thr His Pro Asn Tyr Ile
      115                               120                        125

Ser Ile Ile Asn Glu Asp Gly Asn Glu Ile Phe Asn Thr Ser Leu Phe
      130                               135                        140

Glu Pro Pro Pro Pro Gly Tyr Glu Asn Val Ser Asp Ile Val Pro Pro
      145                               150                        155                        160

Phe Ser Ala Phe Ser Pro Gln Gly Met Pro Glu Gly Asp Leu Val Tyr
      165                               170                        175

Val Asn Tyr Ala Arg Thr Glu Asp Phe Phe Lys Leu Glu Arg Asp Met
      180                               185                        190

Lys Ile Asn Cys Ser Gly Lys Ile Val Ile Ala Arg Tyr Gly Lys Val
      195                               200                        205

Phe Arg Gly Asn Lys Val Lys Asn Ala Gln Leu Ala Gly Ala Lys Gly
      210                               215                        220

Val Ile Leu Tyr Ser Asp Pro Ala Asp Tyr Phe Ala Pro Gly Val Lys
      225                               230                        235                        240

Ser Tyr Pro Asp Gly Trp Asn Leu Pro Gly Gly Gly Val Gln Arg Gly
      245                               250                        255

Asn Ile Leu Asn Leu Asn Gly Ala Gly Asp Pro Leu Thr Pro Gly Tyr

```


260					265					270					
Pro	Ala	Asn	Glu	Tyr	Ala	Tyr	Arg	Arg	Gly	Ile	Ala	Glu	Ala	Val	Gly
	275						280					285			
Leu	Pro	Ser	Ile	Pro	Val	His	Pro	Ile	Gly	Tyr	Tyr	Asp	Ala	Gln	Lys
	290					295					300				
Leu	Leu	Glu	Lys	Met	Gly	Gly	Ser	Ala	Pro	Pro	Asp	Ser	Ser	Trp	Arg
305					310					315					320
Gly	Ser	Leu	Lys	Val	Pro	Tyr	Asn	Val	Gly	Pro	Gly	Phe	Thr	Gly	Asn
				325					330					335	
Phe	Ser	Thr	Gln	Lys	Val	Lys	Met	His	Ile	His	Ser	Thr	Asn	Glu	Val
			340					345					350		
Thr	Arg	Ile	Tyr	Asn	Val	Ile	Gly	Thr	Leu	Arg	Gly	Ala	Val	Glu	Pro
		355					360					365			
Asp	Arg	Tyr	Val	Ile	Leu	Gly	Gly	His	Arg	Asp	Ser	Trp	Val	Phe	Gly
	370					375					380				
Gly	Ile	Asp	Pro	Gln	Ser	Gly	Ala	Ala	Val	Val	His	Glu	Ile	Val	Arg
385					390					395					400
Ser	Phe	Gly	Thr	Leu	Lys	Lys	Glu	Gly	Trp	Arg	Pro	Arg	Arg	Thr	Ile
				405					410					415	
Leu	Phe	Ala	Ser	Trp	Asp	Ala	Glu	Glu	Phe	Gly	Leu	Leu	Gly	Ser	Thr
			420					425					430		
Glu	Trp	Ala	Glu	Glu	Asn	Ser	Arg	Leu	Leu	Gln	Glu	Arg	Gly	Val	Ala
		435					440					445			
Tyr	Ile	Asn	Ala	Asp	Ser	Ser	Ile	Glu	Gly	Asn	Tyr	Thr	Leu	Arg	Val
	450					455					460				
Asp	Cys	Thr	Pro	Leu	Met	Tyr	Ser	Leu	Val	His	Asn	Leu	Thr	Lys	Glu
465					470					475					480
Leu	Lys	Ser	Pro	Asp	Glu	Gly	Phe	Glu	Gly	Lys	Ser	Leu	Tyr	Glu	Ser
				485					490					495	
Trp	Thr	Lys	Lys	Ser	Pro	Ser	Pro	Glu	Phe	Ser	Gly	Met	Pro	Arg	Ile
			500					505					510		
Ser	Lys	Leu	Gly	Ser	Gly	Asn	Asp	Phe	Glu	Val	Phe	Phe	Gln	Arg	Leu
		515					520					525			
Gly	Ile	Ala	Ser	Gly	Arg	Ala	Arg	Tyr	Thr	Lys	Asn	Trp	Glu	Thr	Asn
	530					535					540				
Lys	Phe	Ser	Gly	Tyr	Pro	Leu	Tyr	His	Ser	Val	Tyr	Glu	Thr	Tyr	Glu
545					550					555					560
Leu	Val	Glu	Lys	Phe	Tyr	Asp	Pro	Met	Phe	Lys	Tyr	His	Leu	Thr	Val
				565					570					575	
Ala	Gln	Val	Arg	Gly	Gly	Met	Val	Phe	Glu	Leu	Ala	Asn	Ser	Ile	Val
			580					585					590		

152

Leu Pro Phe Asp Cys Arg Asp Tyr Ala Val Val Leu Arg Lys Tyr Ala
 595 600 605
 Asp Lys Ile Tyr Ser Ile Ser Met Lys His Pro Gln Glu Met Lys Thr
 610 615 620
 Tyr Ser Val Ser Phe Asp Ser Leu Phe Ser Ala Val Lys Asn Phe Thr
 625 630 635 640
 Glu Ile Ala Ser Lys Phe Ser Glu Arg Leu Gln Asp Phe Asp Lys Ser
 645 650 655
 Asn Pro Ile Val Leu Arg Met Met Asn Asp Gln Leu Met Phe Leu Glu
 660 665 670
 Arg Ala Phe Ile Asp Pro Leu Gly Leu Pro Asp Arg Pro Phe Tyr Arg
 675 680 685
 His Val Ile Tyr Ala Pro Ser Ser His Asn Lys Tyr Ala Gly Glu Ser
 690 695 700
 Phe Pro Gly Ile Tyr Asp Ala Leu Phe Asp Ile Glu Ser Lys Val Asp
 705 710 715 720
 Pro Ser Lys Ala Trp Gly Glu Val Lys Arg Gln Ile Tyr Val Ala Ala
 725 730 735
 Phe Thr Val Gln Ala Ala Ala Glu Thr Leu Ser Glu Val Ala
 740 745 750

<210> 474
 <211> 386
 <212> PRT
 <213> Homo sapiens

<400> 474
 Met Arg Ala Ala Pro Leu Leu Leu Ala Arg Ala Ala Ser Leu Ser Leu
 5 10 15
 Gly Phe Leu Phe Leu Leu Phe Phe Trp Leu Asp Arg Ser Val Leu Ala
 20 25 30
 Lys Glu Leu Lys Phe Val Thr Leu Val Phe Arg His Gly Asp Arg Ser
 35 40 45
 Pro Ile Asp Thr Phe Pro Thr Asp Pro Ile Lys Glu Ser Ser Trp Pro
 50 55 60
 Gln Gly Phe Gly Gln Leu Thr Gln Leu Gly Met Glu Gln His Tyr Glu
 65 70 75 80
 Leu Gly Glu Tyr Ile Arg Lys Arg Tyr Arg Lys Phe Leu Asn Glu Ser
 85 90 95
 Tyr Lys His Glu Gln Val Tyr Ile Arg Ser Thr Asp Val Asp Arg Thr
 100 105 110
 Leu Met Ser Ala Met Thr Asn Leu Ala Ala Leu Phe Pro Pro Glu Gly
 115 120 125
 Val Ser Ile Trp Asn Pro Ile Leu Leu Trp Gln Pro Ile Pro Val His

153

130 135 140
 Thr Val Pro Leu Ser Glu Asp Gln Leu Leu Tyr Leu Pro Phe Arg Asn
 145 150 155 160
 Cys Pro Arg Phe Gln Glu Leu Glu Ser Glu Thr Leu Lys Ser Glu Glu
 165 170 175
 Phe Gln Lys Arg Leu His Pro Tyr Lys Asp Phe Ile Ala Thr Leu Gly
 180 185 190
 Lys Leu Ser Gly Leu His Gly Gln Asp Leu Phe Gly Ile Trp Ser Lys
 195 200 205
 Val Tyr Asp Pro Leu Tyr Cys Glu Ser Val His Asn Phe Thr Leu Pro
 210 215 220
 Ser Trp Ala Thr Glu Asp Thr Met Thr Lys Leu Arg Glu Leu Ser Glu
 225 230 235 240
 Leu Ser Leu Leu Ser Leu Tyr Gly Ile His Lys Gln Lys Glu Lys Ser
 245 250 255
 Arg Leu Gln Gly Gly Val Leu Val Asn Glu Ile Leu Asn His Met Lys
 260 265 270
 Arg Ala Thr Gln Ile Pro Ser Tyr Lys Lys Leu Ile Met Tyr Ser Ala
 275 280 285
 His Asp Thr Thr Val Ser Gly Leu Gln Met Ala Leu Asp Val Tyr Asn
 290 295 300
 Gly Leu Leu Pro Pro Tyr Ala Ser Cys His Leu Thr Glu Leu Tyr Phe
 305 310 315 320
 Glu Lys Gly Glu Tyr Phe Val Glu Met Tyr Tyr Arg Asn Glu Thr Gln
 325 330 335
 His Glu Pro Tyr Pro Leu Met Leu Pro Gly Cys Ser Pro Ser Cys Pro
 340 345 350
 Leu Glu Arg Phe Ala Glu Leu Val Gly Pro Val Ile Pro Gln Asp Trp
 355 360 365
 Ser Thr Glu Cys Met Thr Thr Asn Ser His Gln Gly Thr Glu Asp Ser
 370 375 380
 Thr Asp
 385

 <210> 475
 <211> 261
 <212> PRT
 <213> Homo sapiens

 <400> 475
 Met Trp Val Pro Val Val Phe Leu Thr Leu Ser Val Thr Trp Ile Gly
 5 10 15
 Ala Ala Pro Leu Ile Leu Ser Arg Ile Val Gly Gly Trp Glu Cys Glu
 20 25 30

```
<210> 476
<211> 1079
<212> PRT
<213> Homo sapiens
```

BNSDOCID: <WO__0125272A2 | >

155

Val Ala Ser Arg Gly Arg Ala Val Cys Gly Gly Val Leu Val His Pro
 50 55 60
 Gln Trp Val Leu Thr Ala Ala His Cys Ile Arg Asn Lys Ser Val Ile
 65 70 75 80
 Leu Leu Gly Arg His Ser Leu Phe His Pro Glu Asp Thr Gly Gln Val
 85 90 95
 Phe Gln Val Ser His Ser Phe Pro His Pro Leu Tyr Asp Met Ser Leu
 100 105 110
 Leu Lys Asn Arg Phe Leu Arg Pro Gly Asp Asp Ser Ser His Asp Leu
 115 120 125
 Met Leu Leu Arg Leu Ser Glu Pro Ala Glu Leu Thr Asp Ala Val Lys
 130 135 140
 Val Met Asp Leu Pro Thr Gln Glu Pro Ala Leu Gly Thr Thr Cys Tyr
 145 150 155 160
 Ala Ser Gly Trp Gly Ser Ile Glu Pro Glu Glu Phe Leu Thr Pro Lys
 165 170 175
 Lys Leu Gln Cys Val Asp Leu His Val Ile Ser Asn Asp Val Cys Ala
 180 185 190
 Gln Val His Pro Gln Lys Val Thr Lys Phe Met Leu Cys Ala Gly Arg
 195 200 205
 Trp Thr Gly Gly Lys Ser Thr Cys Ser Gly Asp Ser Gly Gly Pro Leu
 210 215 220
 Val Cys Asn Gly Val Leu Gln Gly Ile Thr Ser Trp Gly Ser Glu Pro
 225 230 235 240
 Cys Ala Leu Pro Glu Arg Pro Ser Leu Tyr Thr Lys Val Val His Tyr
 245 250 255
 Arg Lys Trp Ile Lys Asp Thr Ile Val Ala Asn Pro Gly Ser Met Ala
 260 265 270
 Thr Ala Gly Asn Pro Trp Gly Trp Phe Leu Gly Tyr Leu Ile Leu Gly
 275 280 285
 Val Ala Gly Ser Leu Val Ser Gly Ser Cys Ser Gln Ile Ile Asn Gly
 290 295 300
 Glu Asp Cys Ser Pro His Ser Gln Pro Trp Gln Ala Ala Leu Val Met
 305 310 315 320
 Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp Val
 325 330 335
 Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu Gly
 340 345 350
 Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val Glu
 355 360 365
 Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro Leu Leu Ala
 370 375 380

Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser Asp
 385 390 395 400
 Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly Asn
 405 410 415
 Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly Arg Met Pro
 420' 425 430
 Thr Val Leu Gln Cys Val Asn Val Ser Val Val Ser Glu Glu Val Cys
 435 440 445
 Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe Cys Ala Gly
 450 455 460
 Gly Gly Gln Asp Gln Lys Asp Ser Cys Asn Gly Asp Ser Gly Gly Pro
 465 470 475 480
 Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe Gly Lys Ala
 485 490 495
 Pro Cys Gly Gln Val Gly Val Pro Gly Val Tyr Thr Asn Leu Cys Lys
 500 505 510
 Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Ala Ser Glu Phe Met Val
 515 520 525
 Gln Arg Leu Trp Val Ser Arg Leu Leu Arg His Arg Lys Ala Gln Leu
 530 535 540
 Leu Leu Val Asn Leu Leu Thr Phe Gly Leu Glu Val Cys Leu Ala Ala
 545 550 555 560
 Gly Ile Thr Tyr Val Pro Pro Leu Leu Leu Glu Val Gly Val Glu Glu
 565 570 575
 Lys Phe Met Thr Met Val Leu Gly Ile Gly Pro Val Leu Gly Leu Val
 580 585 590
 Cys Val Pro Leu Leu Gly Ser Ala Ser Asp His Trp Arg Gly Arg Tyr
 595 600 605
 Gly Arg Arg Arg Pro Phe Ile Trp Ala Leu Ser Leu Gly Ile Leu Leu
 610 615 620
 Ser Leu Phe Leu Ile Pro Arg Ala Gly Trp Leu Ala Gly Leu Leu Cys
 625 630 635 640
 Pro Asp Pro Arg Pro Leu Glu Leu Ala Leu Leu Ile Leu Gly Val Gly
 645 650 655
 Leu Leu Asp Phe Cys Gly Gln Val Cys Phe Thr Pro Leu Glu Ala Leu
 660 665 670
 Leu Ser Asp Leu Phe Arg Asp Pro Asp His Cys Arg Gln Ala Tyr Ser
 675 680 685
 Val Tyr Ala Phe Met Ile Ser Leu Gly Gly Cys Leu Gly Tyr Leu Leu
 690 695 700
 Pro Ala Ile Asp Trp Asp Thr Ser Ala Leu Ala Pro Tyr Leu Gly Thr

705		710		715		720
Gln Glu Glu Cys	Leu Phe Gly Leu Leu Thr Leu Ile Phe Leu Thr Cys					
	725			730		735
Val Ala Ala Thr	Leu Leu Val Ala Glu Glu Ala Ala Leu Gly Pro Thr					
	740		745			750
Glu Pro Ala Glu Gly Leu Ser Ala Pro Ser Leu Ser Pro His Cys Cys						
	755		760			765
Pro Cys Arg Ala Arg Leu Ala Phe Arg Asn Leu Gly Ala Leu Leu Pro						
	770		775			780
Arg Leu His Gln Leu Cys Cys Arg Met Pro Arg Thr Leu Arg Arg Leu						
	785		790		795	800
Phe Val Ala Glu Leu Cys Ser Trp Met Ala Leu Met Thr Phe Thr Leu						
	805		810			815
Phe Tyr Thr Asp Phe Val Gly Glu Gly Leu Tyr Gln Gly Val Pro Arg						
	820		825			830
Ala Glu Pro Gly Thr Glu Ala Arg Arg His Tyr Asp Glu Gly Val Arg						
	835		840			845
Met Gly Ser Leu Gly Leu Phe Leu Gln Cys Ala Ile Ser Leu Val Phe						
	850		855			860
Ser Leu Val Met Asp Arg Leu Val Gln Arg Phe Gly Thr Arg Ala Val						
	865		870		875	880
Tyr Leu Ala Ser Val Ala Ala Phe Pro Val Ala Ala Gly Ala Thr Cys						
	885		890			895
Leu Ser His Ser Val Ala Val Val Thr Ala Ser Ala Ala Leu Thr Gly						
	900		905			910
Phe Thr Phe Ser Ala Leu Gln Ile Leu Pro Tyr Thr Leu Ala Ser Leu						
	915		920			925
Tyr His Arg Glu Lys Gln Val Phe Leu Pro Lys Tyr Arg Gly Asp Thr						
	930		935			940
Gly Gly Ala Ser Ser Glu Asp Ser Leu Met Thr Ser Phe Leu Pro Gly						
	945		950		955	960
Pro Lys Pro Gly Ala Pro Phe Pro Asn Gly His Val Gly Ala Gly Gly						
	965		970			975
Ser Gly Leu Leu Pro Pro Pro Pro Ala Leu Cys Gly Ala Ser Ala Cys						
	980		985			990
Asp Val Ser Val Arg Val Val Val Gly Glu Pro Thr Glu Ala Arg Val						
	995		1000			1005
Val Pro Gly Arg Gly Ile Cys Leu Asp Leu Ala Ile Leu Asp Ser Ala						
	1010		1015			1020
Phe Leu Leu Ser Gln Val Ala Pro Ser Leu Phe Met Gly Ser Ile Val						
	1025		1030		1035	1040

158

Gln Leu Ser Gln Ser Val Thr Ala Tyr Met Val Ser Ala Ala Gly Leu
1045 1050 1055

Gly Leu Val Ala Ile Tyr Phe Ala Thr Gln Val Val Phe Asp Lys Ser
1060 1065 1070

Asp Leu Ala Lys Tyr Ser Ala
1075

1/6

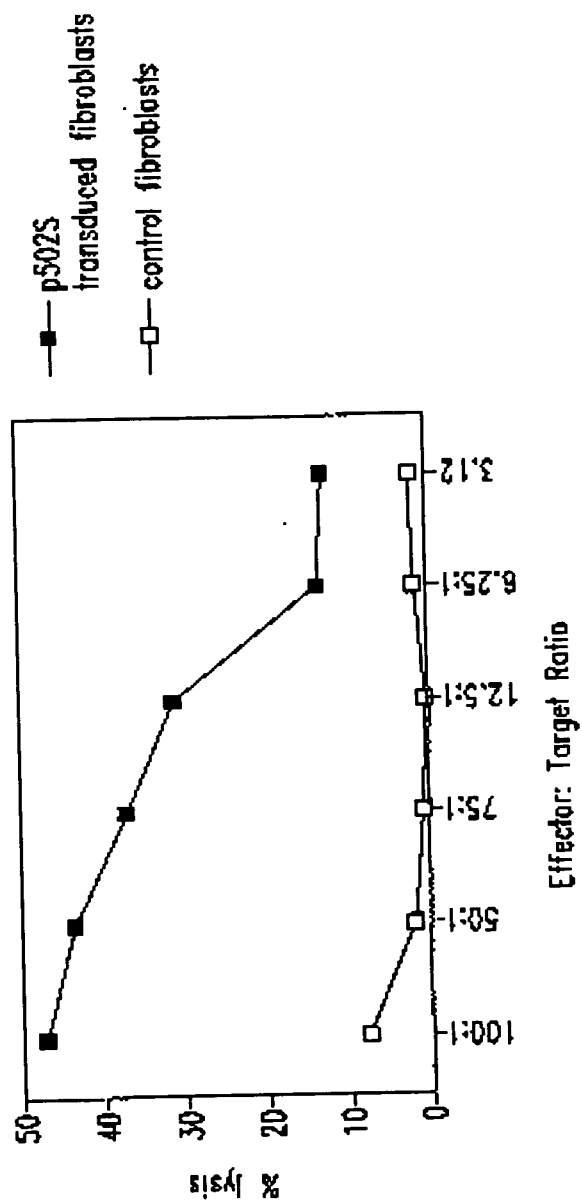
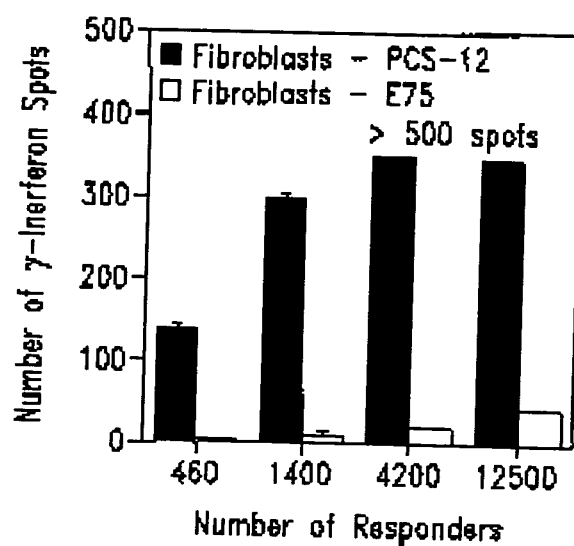
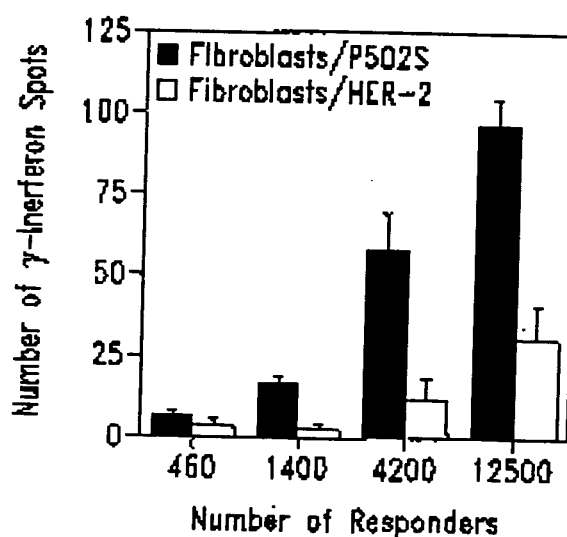


Fig. 1

2/6

*Fig. 2A**Fig. 2B*

3/6

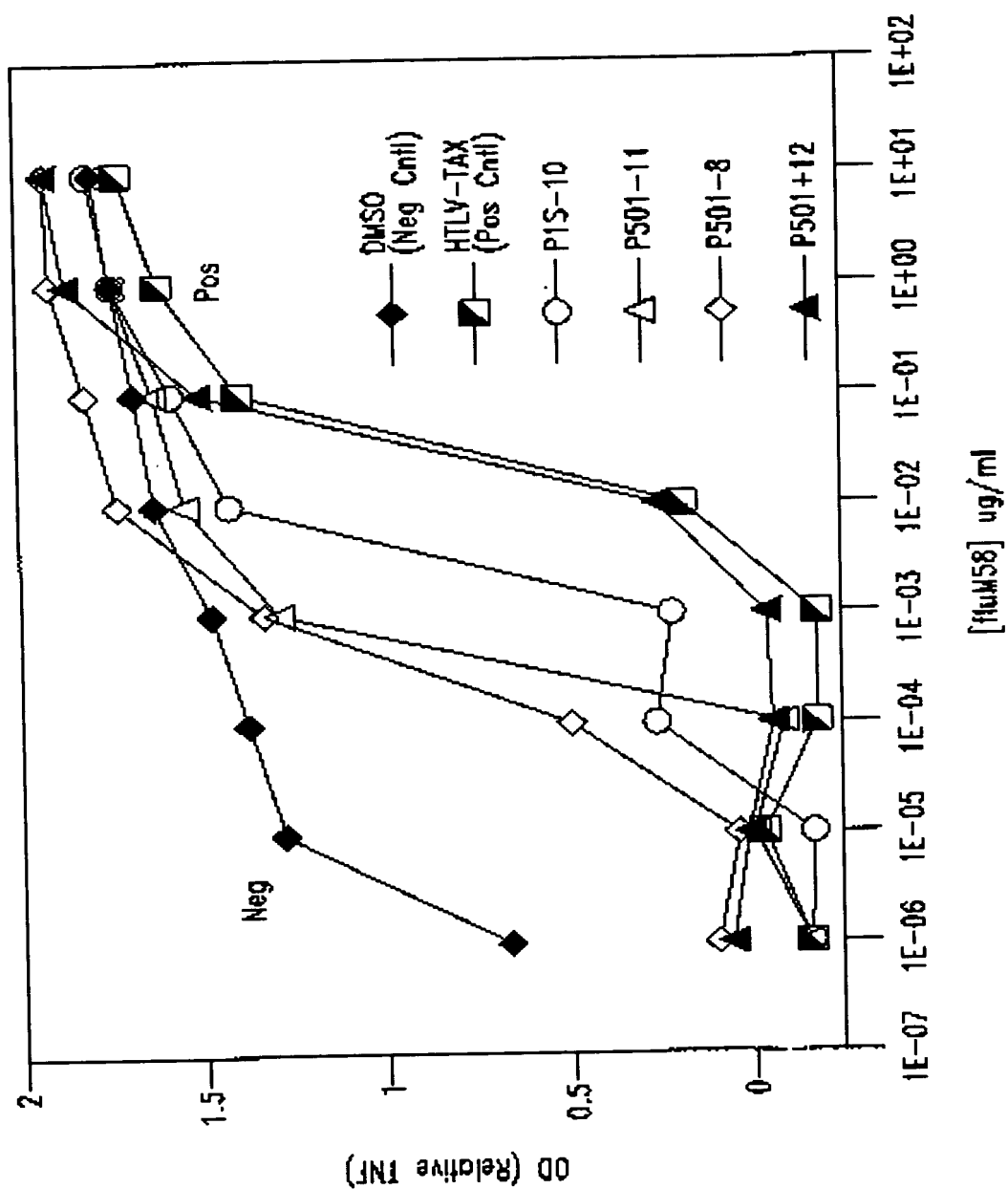


Fig. 3

4/6

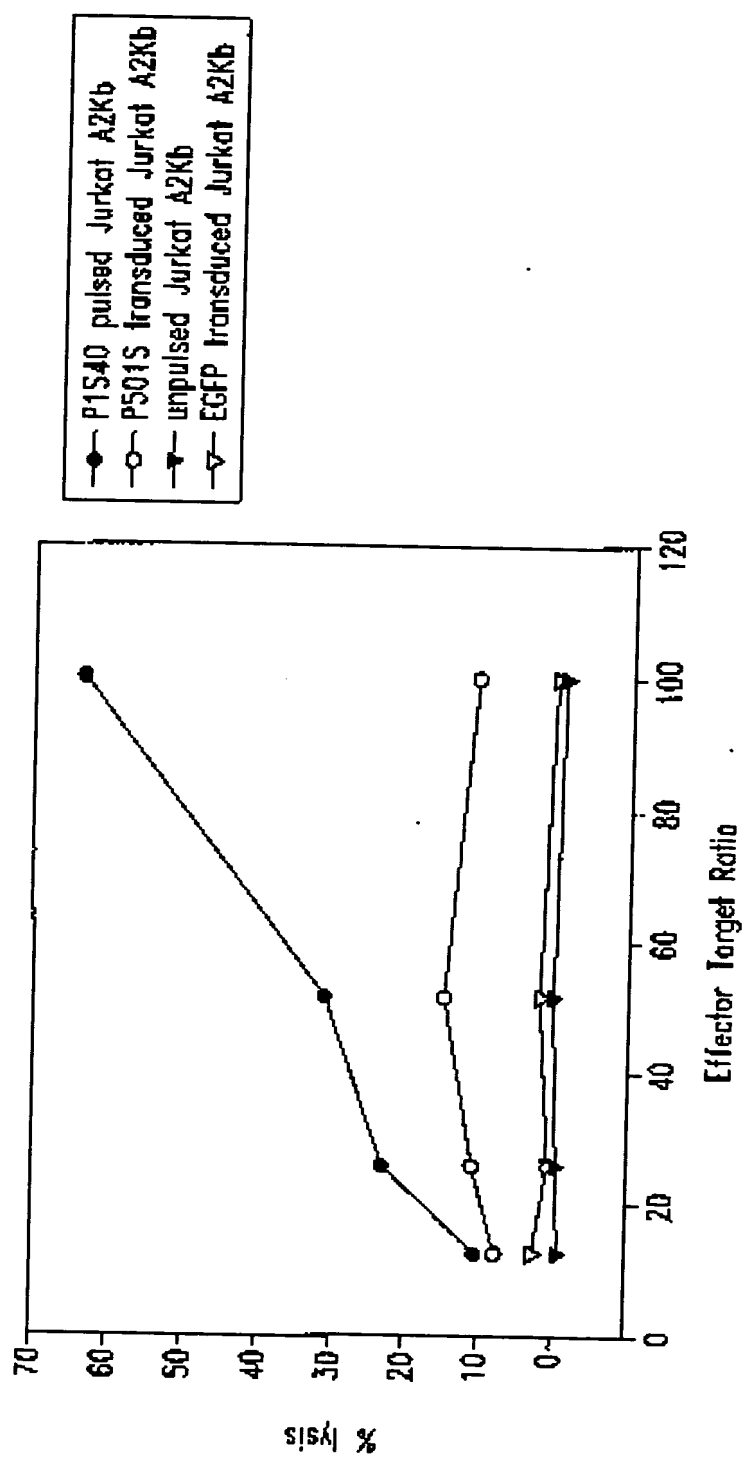


Fig. 4

5/6

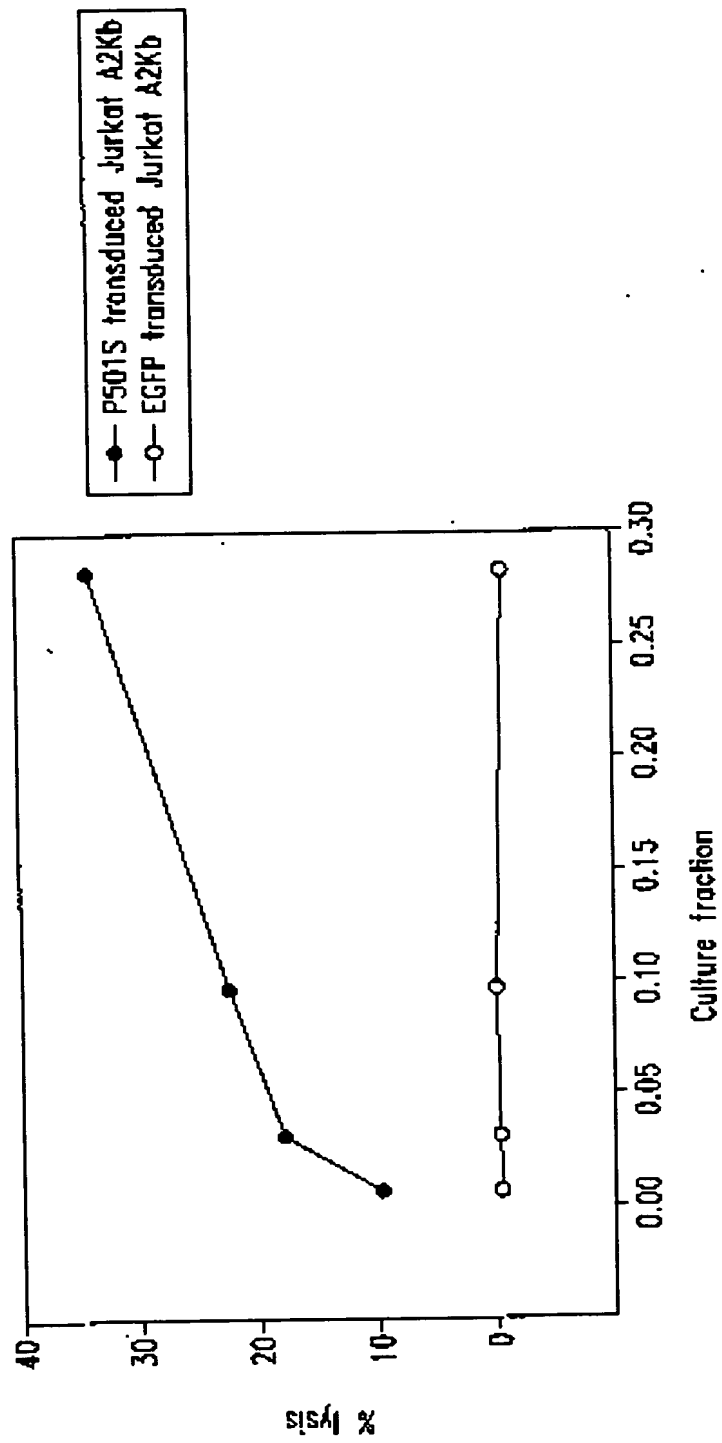
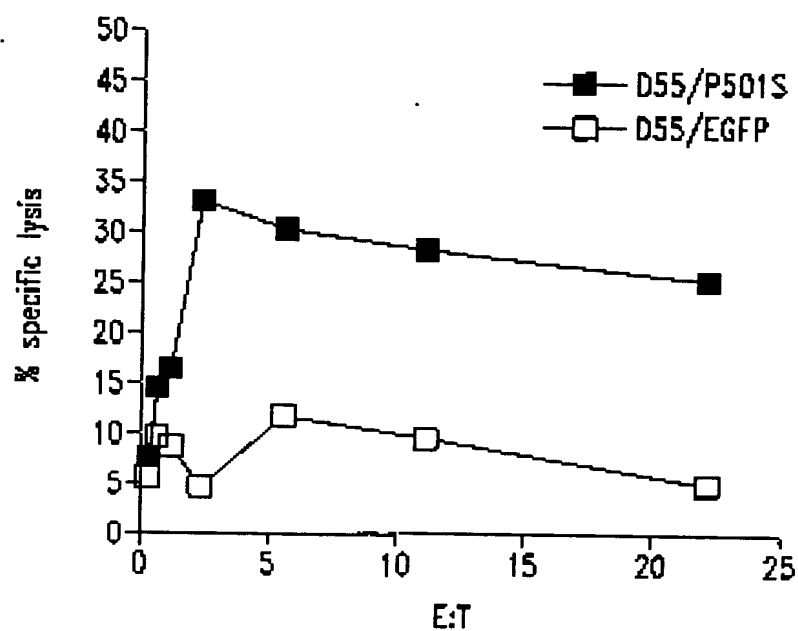
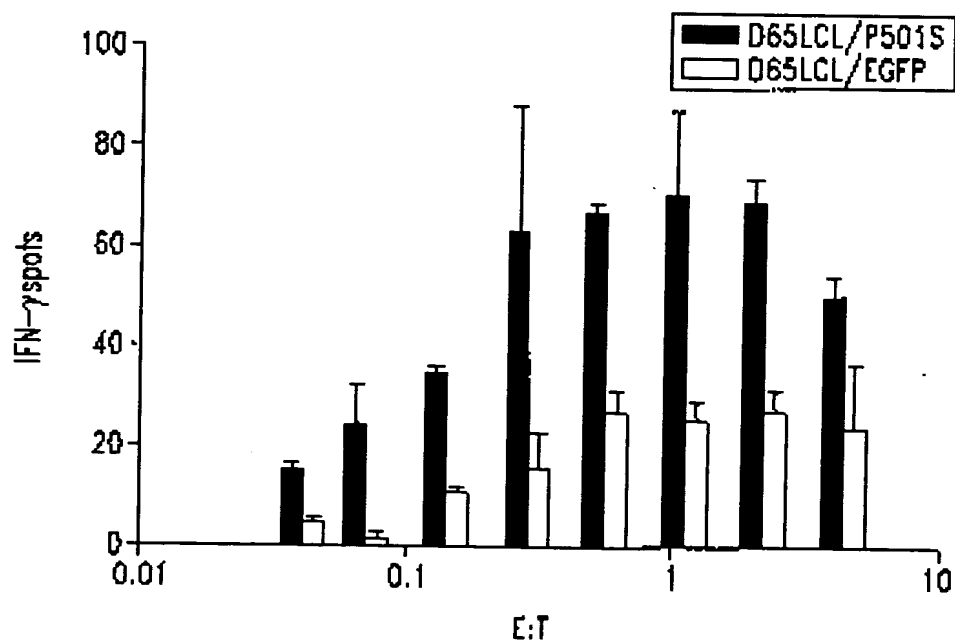


Fig. 5

6/6

*Fig. 6A**Fig. 6B*

SEQUENCE LISTING

<110> Corixa Corporation et al.

<120> COMPOSITIONS AND METHODS FOR THE THERAPY AND
DIAGNOSIS OF PROSTATE CANCER

<130> 210121.534PC

<140> PCT

<141> 2000-10-04

<160> 476

<170> FastSEQ for Windows Version 3.0

<210> 1

<211> 814

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(814)

<223> n = A,T,C or G

<400> 1

tttttttttt	tttttcacag	tataacagct	ctttattttct	gtgagttcta	ctagggaatc	60
atcaaatctg	agggttgtct	ggaggacttc	aattacacctc	ccccatagt	gaalcagett	120
ccagggggtc	cagtcctctc	cttactttca	tccccatccc	atgccaaagg	aagaccctcc	180
ctccttggtc	cacagcttc	tctaggttc	ccagtgcctc	caggacagag	tgggttatgt	240
tttcagctcc	atccttgctg	tgagtgtctg	gtgcgttggtg	ctccagctt	ctgctcagtg	300
cttcattggac	agtgtccagc	acatgtcact	ctccactctc	tcagtgtgga	tccactagtt	360
ctagagcggc	cggccacggc	gtggagctcc	agcttttgtt	ccctttagtg	agggttaatt	420
gcgcgcttg	cgtaatcatg	gtcataactg	tttcctgtgt	gaaattgtta	tcgcctcaca	480
attccacaca	acatacagc	cggaaagcata	aagtgtaaag	cctgggggtc	ctaattgagtg	540
anctaactca	cattaattgc	gttgcgctca	ctgnccgctt	tccagtcngg	aaaactgtcg	600
tgccagctgc	attaatgaat	cggccaacgc	ncggggaaaa	gcggtttgcg	ttttgggggc	660
tcttcgcgtt	ctcgctcact	nantcctgcg	ctcggtcantt	cggctgcggg	gaacagttac	720
actcctcaaa	ggnngtatta	cggttatccn	naaatcnggg	gataccnngg	aaaaaatntt	780
aacaaaaggg	canuaaagg	cnguaacgta	aaaa			814

<210> 2

<211> 816

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(816)

<223> n = A,T,C or G

<400> 2

acagaaatgt	tggatgggtg	agcacctttc	tatacagactt	acaggacagc	agatggggaa	60
ttcatggctg	ttggagcaat	agaaccccag	ttctacgagc	tgctgatcaa	aggacttggg	120
ctaaagtctg	atgaacttcc	caatcagatg	agcatggatg	attggccaga	aatgaagaag	180
aagtttgcag	atgtatttgc	aaagaagacg	aaggcagagt	ggtgtcaaat	ctttgacggc	240
acagatgcct	gtgtgactcc	ggttctgact	tttgaggagg	ttgttcatca	tgatcaccac	300
aaggaaacggg	gctcgtttat	caccagttag	gagcaggagc	tgagcccccg	ccctgcacct	360
ctgctgttaa	acaccccagc	catectttct	ttcaaaaggg	atcaactagt	tctaggagcg	420
gcgcgcaccc	cgggtgagct	ccagcttttg	ttcccttttag	tgaqqqlaan	ttgcgcctct	480

ggcgtaatca	tggatcatagc	tgtttctctgt	gtgaaattgt	tatccgctca	caattccccc	540
aacatacgag	ccggaacata	aagtgttaag	cctgggggtgc	ctaattgamt	agctaactcn	600
cattaattgc	gttgcgctca	ctgcccgttl	tccagtcggg	aaaactgtcg	tgccactgcn	660
ttantgaatc	ngccaccccc	cgggaaaagg	cggttgcntt	ttgggcctct	tccgctttcc	720
tcgctcattg	atccctngcnc	ccggtcttcc	gctgcggnga	acggttcact	cctcaagggc	780
ggtntnccgg	ttatccccas	acnnggggata	cccnaga			816

<210> 3
 <211> 773
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(773)
 <223> n = A,T,C or G

<400> 3						
cttttgaaag	aagggatggc	tggggtgttt	aacagcagag	gtgcaggggcg	ggggctcaog	60
tctgtctct	cactggtgat	aaacggcgcc	cgttccttgt	tgtgatcatg	atgaacaacc	120
tctcaaaaag	tcagsaccgg	agtcacacag	gcattctgtc	cgtaaaagat	ttgacaccac	180
tctgctctcg	tcttctttgc	aaatacatct	gcaaaacttt	tcttcatttc	tggccaatca	240
tccatgctca	tctgattggg	aagttcatca	gactttagtc	caantccttt	gacagcagc	300
tctagaact	ggggttctat	tgtctcaaca	gcoetgaatt	ccccatctgc	tgtcctgtaa	360
gtogtataga	aaggtgctcc	accatccaac	atgttctgtc	ctcggggggg	ggcccggtac	420
ccaattcgcc	ctatantgag	tcttattacg	cgcgctcact	ggccgltcgt	ttccaacgtc	480
gtgactggga	aaaccctggg	cgttaccaac	ttaatcgctt	tgcagcccat	ccccctttcg	540
ccagctgggc	gtaatanoga	aaaggccggc	accgatcgcc	cttccaacag	ttgcgcacct	600
gaatgggnaa	atgggaaccc	cctgttaacc	cgcattnaac	ccccgcnggg	tttngttgtt	660
acccctacnt	nnaccgctta	cactttgcca	ggccttano	ggccgctccc	tttncctttt	720
cttcccttcc	tttccccccc	etttcccccc	gggtttcccc	cttcaaaccc	cna	773

<210> 4
 <211> 828
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(828)
 <223> n = A,T,C or G

<400> 4						
cctcctgagt	cctactgacc	tgtgctttct	ggtgtggagt	ccagggctgc	taggaaaagg	60
aatgggcagg	cacagggtga	tgccaatgtt	tctgaaatgg	gtataatttc	gtcctctcct	120
tcggaaacct	ggctgtctct	gaagacttct	cgctcagttt	cagtgaggac	acacacaaag	180
acgtgggtga	ccatgtttgt	tgtggggtgc	agagatggga	gggggtgggg	ccaccctgga	240
agagtggaca	gtgacacaag	gtggacactc	tctacagatc	actgaggata	agctggagcc	300
acaatgcctg	aggcacacac	acagcaaggga	tgaacctgta	aacatagccc	acgtgtctct	360
gnnggcactg	ggagccctcn	atnagycctt	gagcanaaag	aaggggaggga	tccactagtt	420
ctanagcggc	cgccaccggc	gtgganctcc	ancttttgtt	ccctttagtg	agggtaattt	480
ggcgctttgg	cntaatcatg	gtcatanctn	tttctgtgtt	gaatttgta	tccgctcaca	540
attccacaca	acatacganc	cggaacata	aantgtaaac	ctggggtgce	taatgantga	600
ctaactcaca	ttaattgcgt	tgcgctcact	gcccgttttc	caatcnggaa	acctgtcttg	660
ccnottgcat	tnatgaatcn	gccaaccccc	ggggaaaagg	gtttgcgttt	tgggcgctct	720
tccgttctct	cnetcantta	ntccctnone	tgggtcatte	cggtgcngc	aaaccggttc	780
accnootcca	aagggggtat	tccggttttc	cnatccgg	gganance		828

<210> 5
 <211> 834
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)... (834)
 <223> n = A, T, C or G

<400> 5
 ttttlttttt tttttactga tagatggaat ttattaaact tttcacatgt gatagcarat 60
 agtttttaatt gcatccaaag tactaacaaa aactctagca atcaagaatg gcagcatgtt 120
 atttttataac aatcaacacc tgtggctttt aaaatttggg tttcataaga taattttatc 180
 tgaagtaaat ctagccatgc ttttaaaaaa tgccttaggt cactccaagc ttggcagtta 240
 acattttggca taaacaataa taaaacaatc acaatttaat aaataacaaa tacaacattg 300
 taggccataa tcatatacag tataaggaaa aggtggtagt gttgagtaag cagttattag 360
 aatagaatac cttggcctct atgcaaatat gtctagacac tttgattcac tcagccctga 420
 cattcagttt tcaaagtagg agacaggttc tacagtatca ttttacagtt tccaacacat 480
 tgaaaacaag tagaaaatga tgagttgatt ttatttaatg cattacatcc tcaagagtta 540
 tcaccaaccc ctacagttata aaaaattttc aagttatatt agtcatataa cttgggtgtgc 600
 ttatttttaa ttagtgttaa atggattaa tgaaagacaac aatgggtccc taatgtgatt 660
 gatattgtgc atttttacca gcttctaaat ctnaacttcc aggccttttg actggaacat 720
 tgnatnacag ttttccanag ttccaacctt ctggaaacatt acagtgtgct tgattcaaaa 780
 tgtcattttg ttaaaaatta aatttttaacc tgggtggaaa ataatttgaa atna 834

<210> 6
 <211> 818
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)... (818)
 <223> n = A, T, C or G

<400> 6
 tttttttttt tttttttttt aagaccctca tcaatagatg gagacatoca goaatagtca 60
 aaccacatct acanaatgcc agtatcaggc ggcggcttcq aagcuaaagc qalqlllqq 120
 tgtaaagtga aatattagtt ggcggatgaa gcagatagtq aggaaggttg agccaataet 180
 gacgtgaagt cagtggagcc clglagctac aaaaaalgl ggcgcgtaga tgcctgcgga 240
 aatggtqaaq ggcgacacga agtaactctg ggccttctagg agggtaaaat agagacccag 300
 taaaatttgle atagcagtg cttgaattat tgggtctcgg ttgttttcta ttagactatg 360
 gtgaacrlcaq gtgattgata ctactgatgc gactaatac gatgtgttta ggagtcggac 420
 ttctggggga tttagcgggg tgatgcctgt tgggggccag tgcctccta gttggggggt 480
 aggggtatgg ctggagtggg aaaaaggctc gaaaaatcct gcgaagaaaa aaacttctga 540
 ggtaataaat aggattatcc cgtatcgaag gcccttttgg acaggtggtg tgtggtggcc 600
 ttggtatgtg ctttctcgtg ttacatcgcg ccacatttgg tatatgttta gtgtgttggg 660
 ttantanggc ctantatgaa gaacttttgg antggaatta aatcaatngc ttggccggaa 720
 gtcattanga nggctnaaaa ggcctgttta nggtctcgg ctnggtttta ccnaccat 780
 ggaatnccco ccccggaana ntgnatccct attcttaa 818

<210> 7
 <211> 817
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)... (817)
 <223> n = A, T, C or G

<400> 7
 ttttllllll tttttttttt tggctctaga gggggtagag ggggtgctat agggtaata 60
 cgggcccotat ttcaagatt tttaggggaa ttaattctag gacgatgggt atgaaactgt 120
 ggtttgtctc acagatttca ggcattgac cgtagtatac ccccggtcgt gtagcgggtga 180

```

aagtgggttg gtttagacgt ccgggaattg catctgtttt taagcctaatt gtggggacag 240
ctcatgagtg caagacgtct tgtgatgtaa ctattatacn aatgggggct tcaatcggga 300
gtactactcg attgtcaacg tcsaggagtc gcagggtcgcc tggttctagg aataatgggg 360
gaagtatgta ggaattgaaag attaatccgc cgtagtcggg gttctcttag gttcaatacc 420
attggtggcc aattgatttg atggtaaggg gagggatcgt tgaactcgtc tgttatgtaa 480
aggatncctt ngggatggga aggcnatnae ggactengga tnaatggcgg gcangataat 540
tcaaacngtc tctanttcct gaacgcgtctg aatgttaast aanaattaan ttngttatt 600
gbatnttnng gaaagggcct tacaggacta gaaaccaaast angasaanta atnntaangg 660
cnttatcntn aaaggtnata accnctccta tnatccacc caatngnatt ccccaacnnc 720
acnattggat nccccanttc canaaanggc cnccccgcgg tgnannccnc ettttgttcc 780
cttnantgan ggttattcnc cctngcctt atcancc 817

```

```

<210> 8
<211> 799
<212> DNA
<213> Homo sapien

<220>
<221> misc feature
<222> (1)..(799)
<223> n = A, T, C or G

```

```

<400> 8
catctcgggg ttactttctt aaggaaagcc gagcgggaagc tgctaacgtg ggaatcgggtg 60
cataaggaga actttctgct ggcacgcgct agggacaagc gggagagcga clccgagcgt 120
ctgaagcgca cgtcccagaa ggtggacttg gcactgaaac agctgggaca catccgcgag 180
tacgaacagc gcctgaaggt gctggagcgg gaggtccagc agtgtagccg cgtcctgggg 240
tgggtggccg angcctgan cgtctgctt tgetgcccc angtgggccg ccaacccctg 300
acctgcctgg gtccaaacac tgagccctgc tggcggaactt caagganaac cccacacang 360
ggattttgct cctanantaa ggtcatctg ggcctcgcc ccccaacctg gttggccttg 420
tctttgangt gagccccatg tccatctggg ccactgtcng gaccacottt ngggagtgtt 480
ctccttacia ccacannatg ccgggtcctt cccggaaccc antccancc tnggaaggat 540
caagnccctn atccactnnt nctanaaccg gccnccnccg cngtggaaac cnccttntgt 600
tccttttctt tnagggttaa tnncccttg gccttccan ngctctncc ntttccnnt 660
gttnaaatfg ttangcnccc nccnntcccn cncnncnan ngctctncc ntttccnnt 720
nccctgggggt nccnncngat tgaacccncc nccctntant tgccttnggg nncnntgccc 780
cttccctctt nggganncg 799

```

```

<210> 9
<211> 801
<212> DNA
<213> Homo sapien

<220>
<221> misc feature
<222> (1)..(801)
<223> n = A, T, C or G

```

```

<400> 9
acgccttgat cctcccagga tgggactggt tctggggagg gcccgggcatg ctgtggtttg 60
taangatgac actcccaaag gttgtcctya cagtggccaa gatggacatg gggctcacct 120
caaggacaaag gccaccaggt gggggggccc aagcccacat gatccttact ctatgagcaa 180
aatccctgtt gggggcttct ccttgaagtc cggcancagg gctcagtctt tggacccang 240
caggtcatgg ggttgtnnc caactggggg ccnuaacgca aaanggnca gggcctcngn 300
ccccatccc angacggcgg tacaactnct gaactccnc lccacacatt tcatgogctg 360
ttctaccng cgnatntgtc ccactggtt cngtgcacac tccancttct nggaogtgog 420
ctacatagc cgggancnc nctcccgtt tgtccclct cactnccan caavuaattt 480
cncctantg caccnattec carntttnc agntttccnc nncgngcttc cttnlaaaaa 540
ggttganccc cggaaaatnc cccaaaaggg gggggccngg taccctaact cccctnata 600
gttgaantcc ccatnaccn gntcnaatg anccntccnt tttaannacn ttctnaactt 660
gggaanancc ctgcncctn ccccnctta tccncccttg cnaangnccnt ccccnntcc 720
ncccnntng gcntntnann cnaaaaaggc ccnnnancaa tctcctnnc cctcanttgc 780

```

ccanccctcg aatcgccn c

801

<210> 10
 <211> 789
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(789)
 <223> n = A,T,C or G

<400> 10
 cagtctatnt ggccagtgty gcagctttcc ctgtggctgc cgggtgcaca tgcctgtccc 60
 acagtgtggc cgtggtgaca gcttcagccg ccttcacccg gtccaccttc tcagccctgc 120
 agatccctgc ctacacactg gctccctct accaccggga gaagcaqutg ltcclgccc 180
 aataccgagg ggacactggg ggtgctagca gtgaggacag cclgatgacc agcttcctgc 240
 caggccctaa gcttgagct ccccttucta atggacacgt gggkqclgga ggcagtggcc 300
 tgcctccacc tccaccggc ctctgcgggg cctctgctg tcatgtctcc gtacgtgtgg 360
 tgttgggtga gccaccggan gccaggtggy ttccggggccg gggcatctgc ctggacctgc 420
 ccatectgga taagtgttcc tgcctgccc nqlggcccca tccctgttta tgggtccat 480
 tgtccagctc agccagctc tcactgcctc tatgggtgtct gccgcaggcc tgggtctggt 540
 cccatttact ttgtacacc ggtantattt gacaagaacg anttggccaa atactcagcg 600
 claaaaall ccagcaacct tgggggtgga agcctgctc cactgggtcc aactcccgcc 660
 tctgtttaac cccatggggc tgcggcttg gccgccatt tctgttctg ccaaantnat 720
 gtggctctct gctgccacct gttgctggct gaagtgcnta cngcncanct nggggggtng 780
 gnggtccc 789

<210> 11
 <211> 772
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(772)
 <223> n = A,T,C or G

<400> 11
 cccaccctac ccaaatatta gacaccaaca cagaaaagct agcaatggat tccctctctac 60
 tttgttfaat aaataagtta aatattttaa tgcctgtgtc tctgtgatgg caacagaagg 120
 accaacaggc cacatcctga taaaaggtaa gagggggggtg gatcagcaaa aagacagtgc 180
 tgtgggctga ggggacctgg ttcttctgtg ttgcccctca ggaactctcc cctacaaata 240
 actttcatat gttcaaatcc catggaggag tgtttcatcc tagaaactcc catgcaagg 300
 ctacattaaa cgaagctgca ggttaagggg ctlanagatg ggaaccagg tgaclgaglt 360
 tattcagctc ccaaaaaccc ttctctaggt gtgtctcaac taggqqquta gctgttaacc 420
 ctgagcctgg gtaatccacc tgcagagctc ccgcattcca qtgcctgqaa ccccltctggc 480
 ctccctgtat aagtccagac tgaauccccc ttggaaggnc lccaglcagg cagccctana 540
 aactggggga aaaaagaaaag gacgcccraa ccccagctg tgcantacg cactcaaca 600
 gcacagggty gcagcaaaa aaccacttta ctttggcaca aacaaaaact ngggggggca 660
 accccggcac ccnangggg qliaacgqa ancnnggnea cntggaaacc aattnaggca 720
 ggcuncuau ccnaatntt qctgggaat ttllcctccc ctaaattntt tc 772

<210> 12
 <211> 751
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(751)
 <223> n = A,T,C or G

<400> 12

gcccccaattc	cagctgccac	accaccccacg	gtgactgcac	tagttcggat	gtcatacaaa	60
agctgattga	agcaacccctc	tacttttttg	tcttgagcct	tttctgttgg	gcagggtttca	120
ttggctgtgt	tggtgacgtt	gtcattgcac	cagaatggg	gaaaggcact	gttctctttg	180
aaglanqqlg	agtccctaaa	atccgtatag	ttggtgaagc	cacagcactt	gagccctttc	240
atggtgtgtgt	tccacacttg	agtgaagtct	tccgtgggac	cataatcttt	cttgatggca	300
ggcaclacca	gcaacgtcag	ggaagtgtct	agccattgtg	gtgtacacca	aggcgaccac	360
agcagctgcn	acctcagcaa	tgaagatgan	gaggunatg	aagaagaacg	tcnccagggc	420
acacttgctc	tcaagtcttan	caccatcnca	gcccctgaaa	accaanacca	aagaccacna	480
cncggctgc	gatgaagaaa	tnaccccnccg	ttgacaaact	tgcattggca	tggganccac	540
agtggcccca	aaaatcttca	aaaaggatgc	cccatcnatt	gcccccccaa	atgcuccatg	600
ccaacagggg	ctgccccacn	cncnnaacga	tganccnatt	gnaaagatac	tnonlqqict	660
tnatnaacnt	gaacctctgc	tngtggctcc	tggtcaggnc	cnnggccclg	cttctnaann	720
aangaacton	gaagncacca	cngganannc	g			751

<210> 13

<211> 729

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}... (729)

<223> n = A,T,C or G

<400> 13

gagccacggcg	tccctctgcc	tgcccaactca	gtggcaacac	ccgggagctg	ttttgtcett	60
tgtgganect	cagcaagtnc	ctctttcaga	actcantgce	aaganccctg	aacaggagcc	120
accatgcagl	gtcttcagctt	cattaagacc	atgatgatcc	ctctlcaattt	gtctctcttt	180
ctgtgtgggtg	cagccctgtt	ggcagtgggc	atctgggtgt	caatcgatgg	ggcatccttt	240
ctgaagatct	tccggccact	gtcgtccagt	gccatgcagt	ttgtcaacgt	gggctacttc	300
ctcatcgacg	ccggcgttgt	ggtcttagct	ctagggtttc	tgggtgtcta	tgggtgctaag	360
actgagagca	agtgtgccct	ogtgacgttc	ttcttcatcc	tccctcctcat	cttcattgct	420
gaggttgcaa	tgcgtgtggtc	gccttgggtg	acaccacaat	ggctgagcac	ttcctgacgt	480
tgtctggtaat	gcctgccatc	aanaaaagat	tatgggttcc	cagggaanaot	tactcaagt	540
gttggaaacac	caccatgaaa	gggtcgaagt	gctgtggctt	cnnccaacta	taoggatttt	600
gaagantcuc	ctacttcaaa	gaaaanagtg	cctttccccc	atttctgttg	caattgacaa	660
acgtccccaa	cacagccaat	tgaacacctg	cacccaaccc	aaanggggtcc	ccaaccanac	720
allnaaggg						729

<210> 14

<211> 816

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}... (816)

<223> n = A,T,C or G

<400> 14

tgtctcttct	caaagtttgt	ottgtttgcc	taacaaccac	cataggtaaa	gcggggcgag	60
tgttctctga	aggggttgt	gtaccagcgc	gggatgtctc	ccttgacagag	tccctgtgtct	120
ggcaggtcca	cgcagtgcgc	tttgtcactg	gggaatgga	tgcgtggag	ctcgtcaag	180
ccactcgtgt	atttttcaca	ggcagcctcg	tccgacgcgt	cggggcagtt	gggggtgtct	240
tcacactcca	ggaaactgtc	natgcagcag	ccattgtctg	agcgggaactg	gggtggctga	300
canctgccag	agcacaactg	atgggcctct	tccatgnnan	gggcccgtng	ggaaagtccc	360
tgancccnan	anctgcctct	caaangcccc	acottgcaca	ccccgacagg	ctagaatgga	420
atcttcttcc	cgaaaggtag	ttnttcttgt	tgcocanacc	ancccnctaa	acaaactcct	480
gcanaletgc	tcggngggcg	tcntantacc	anctgggaa	aaqaaacccc	qgcnycgaac	540
caanchtqll	tggatnugaa	gcataatct	notntctctg	ctgggtggaca	gcaccanlca	600

7

ctgttannact	ttagnccntg	gtectcntgg	gttgnncttg	aacctaaten	ccnntcaact	660
gggacaagggt	aantngcent	ccttttaatt	cccnanentn	ccccctgggt	tggggctttt	720
cncnctccta	ccccagaaan	ncogtgttcc	cccccaacta	ggggccnaaa	ccnnttnttc	780
cacaaccctn	ccccaccac	gggttcngnt	ggttng			816

<210> 15
 <211> 783
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1).. (783)
 <223> n = A,T,C or G

<400> 15						60
ccaaggcctg	ggcaggeata	nacttgaagg	tacaacccca	ggaacccctg	gtgctgaagg	120
atgtggaaaa	cacagalltg	cgctactgc	gggtgacac	ggatgtcagg	gtagagagga	180
aagacccaaa	ccaggtgqaa	clglggggac	tcaagggaan	cacotacctg	ttocagctga	240
caqtgaacta	ctcagaccac	ccagaggaca	cggccaacgt	cacagtcact	gtgctgtcca	300
ccaagcagac	agaagactac	tgctcgcat	ccaacaangt	gggtcgctgc	cggggtcttt	360
tccnagctg	gtactatgac	cccacggagc	agatctgcaa	gagtttcgtt	tatggagggt	420
gcttgggcaa	caagaacaac	taccttcggg	aagaagagtg	cattctanco	tgtcnggggt	480
lgcaaggtgg	gcctttgana	ngcanctctg	gggtcango	gactttcccc	cggggcccc	540
ccatgggaaag	gcgccatcca	ntgttctctg	gcacctgtca	gccccccca	llccgclgca	600
ccctcccaac	aaagcttccc	tgtnnaaaa	aattgtgaca	acacccccca	ntgcccccca	660
ncaatggctg	ctgcacnac	antttcctng	aattgtgaca	gactttlnc	aaacnccggg	720
cnctccntt	ttcccnntn	aacaaagggc	ncnngcntt	gactgccc	aaccnnggaa	780
tctnccnngg	aaaaantnoc	ccccctgggt	ccnnaanc	cccccncaa	anctncccc	816
ccc						

<210> 16
 <211> 801
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1).. (801)
 <223> n = A,T,C or G

<400> 16						60
gccccaatc	cagctgccac	accacccacg	gtgactgcat	taqltcggat	gtcatacaaa	120
agctgattga	agcaaccctc	tactttttgg	tcgtgagcc	ttf.gcttgg	gcaggtttca	180
ttggctgtgt	tggtgacgtt	gtcattgcaa	cagat.gggg	gaaaggcact	gttctctttg	240
aagtagggtg	agtcctcaaa	atccgtata	tlgggtgaagc	cacagcactt	gagcccttcc	300
atggtggtgt	tccacacttg	aglgaggtct	tcrtgggaac	cataatcttt	cttgatggca	360
ggcactacca	gcaacgtcag	gaggtgclna	gccattgttg	tgtacaccaa	ggcgaccaca	420
gcagctgcua	cctcagcaat	gaggtgaggg	aggaggatga	agaagaacgt	cncgagggca	480
cacttgcctc	ccgtctttag	accctagcag	cccangaaac	caagagcaaa	gaccacaacg	540
ccngctgcga	atgaagaaga	ntacccacgt	tgacaaaactg	catggccact	ggaogacagt	600
tygcccqaan	atcttcagaa	asgggatgcc	ccatcgattg	aacacccana	tgccactgc	660
cnacaggggt	gcnccnccn	gaaagaatga	gccattgaag	aaggatcnc	ntggctctaa	720
tgaaactqaa	ccntgcctgg	tgccccctgt	tcagggtctc	tggcagtga	ttctganaaa	780
aaqqaacngc	ntnagcccc	ccaaangana	aaacaccccc	gggtgttgcc	ctgaattggc	801
gyccaaagqan	cactgcccc	g				

<210> 17
 <211> 740
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(740)
 <223> n = A, T, C or G

<400> 17
 gtgagagcca gggtgccttc tgcctgcccc ctcaagtggca acacccggga gctgttttgt 60
 cttttgtgga gcttcagcag ttccctcttt vagaactcac tgccaagagc cctgaacagg 120
 agccaccatg cagtgcctca gcttcattaa gacctgatg atctcttca atttgclcat 180
 ctltctgtgt ggtgcagccc tgttggcagt gggcatctgg atgtcaatcg atggggcacc 240
 ctttctgaag atcttcgggc cactgtcgtc cagtgcctat cagtttgtca acgtgggcta 300
 ctltctcctc gcagccggcg ttgttggtct tgcctttggt ttcttgggt gctatgggtg 360
 taagacggag agcaagtgt cctcctgtgac gttcttcttc atctctctcc tcatcllcat 420
 tgcctgaagt gcagctgctg tggctgcctt ggtgtacacc acaatggctg aaccttct 480
 gacgttgctg gtantgctg ccatcaanaa agattatggg tcccaggaa aaattcactc 540
 aantntggaa caccnccatg aaaagggctc caatttctgn tggcttcccc aactatarcg 600
 gaattttgaa agantcnccc tacttccaas aaaaaanant tgcctttnc cccnttctgt 660
 tgcaatgaaa acntcccaan acngccaatn aaaacctgcc cnnncaaaaa ggttcncaaa 720
 caaaaaaant nnaagggttn 740

<210> 18
 <211> 802
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(802)
 <223> n = A, T, C or G

<400> 18
 ccgttggttg cgttggtcca gngnagccac gaagcagtc agcatacaca gctcaatca 60
 caaggtcttc cagctgcgc acattacgca gggcaagagc ctccagcaac actgcataatg 120
 ggatacaatt tactttagca gccagggtga caactgagag gtgtcgaagc ttattctct 180
 gagctctgt tagtgagga agattccggg ctccagctaa gtatgcagcg tatgtcccat 240
 aagcaaacac tgtgagcagc cgggaaggtag aggcacagtc actctcagcc agctctctaa 300
 cattgggcat gtccagcagt tctccaaaca cgttagacacc agnggcctcc agcacctgat 360
 ggatgagtg gtccagcgt gcccccttgg ccgacttggc taggagcaga aattgctct 420
 ggttctgcc tgtcccttc acttcggcac tcatcaetgc actgagtgt ggggacttgg 480
 gctcaggatg tccaagagag tggttccguc ccttuncctta atgacacccn ccanncaacc 540
 gtcggctccc gccgagtng ttcgtoginc ctgggclcagg gctgtgtggt cncctcllge 600
 aanccllgtc nggcccattg aatlcacenc accggaaatn gtangctcca ctnnkctat 660
 aaccgggcgc caccgcnnnt ggaaactcac tcttctlncc tttacttggg ggttaaggkc 720
 acccttlncc ttaccttggt ccaaacctn cctgtgtgc anetnglnaa tcnngncne 780
 tncacncnc atangaagcc nq 802

<210> 19
 <211> 731
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(731)
 <223> n = A, T, C or G

<400> 19
 cnaagcttcc aggtnacgg cgcnaancu tgaccunagg tancanaang cagnungcgg 60
 gagccacccg tcaugngngq gngtctttat nqaggggggc ggaacacat cncrtggant 120
 cntgacccca actcccccnc ncnanlqua gtgctgagtg cagaactcaa ggtnacgtgg 180
 caggaaccaa gancasanc tgcctcnnct caagtcggcn nagggggcgg ggclggccac 240
 gencatcct cnaagtgtgn aaagccccc cctgtctact tgtttggaga acngcnnnga 300

catgccagc	gttanat.sac	nggcngcgag	cnantttgcc	tctcccttcc	ggctgcgcac	360
cngtntgct	tagnggacat	aacctgacta	cttaactgaa	cccnngaato	tnccnccctt	420
ccactaagct	cagsacaaaa	sacttcgaca	ccactcantt	gtcaectgnc	tgctcaagta	480
aagtgtaccc	catncccaat	gtntgctnga	ngctctgncc	tgonttangt	tcggtcctgg	540
gaagacctat	caattnaagc	tatgtttctg	actgcctctt	gctccctgna	acaancnaac	600
cnnnntcca	aggggggggc	ggcccccaat	ccccccaacc	ntnaattnan	tttanccccc	660
ccccmgggc	cgcccttita	cnanentcnn	nnacngggna	aaacccnnngc	tttncccaac	720
nnaatccccc	t					731

<210> 20
 <211> 754
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc feature
 <222> (1)...(754)
 <223> n = A,T,C or G

cttttttttt	cttttttttt	taaaaacccc	ctccattnaa	lgnaaacttc	cgaattgtc	60
caaccccctc	ntccaaatnn	ccntttccgg	gnqgggggtc	caaacccaan	ttanttttgg	120
annttaaset	aatnttlnnt	tggngggnnna	anccnaatgt	nangaaagtt	naacccanta	180
tnancttnaa	tnccctgaaa	ccngtngntt	ccaaaaatnt	ttaaccctta	antccctccg	240
aatngtttna	nggaaaaacc	aantttctnt	aaggttgttt	gaaggntnaa	tnaaaaancc	300
nnccaattgt	tttngccac	gcctgaatta	attggnntcc	gntgttttcc	nttaaaanaa	360
ggnnancccc	ggttantnaa	tccccccnnc	cccaattata	coganttttt	ttngaattgg	420
gancccnogg	gaattaaagg	ggnnnnntccc	tnttgggggg	cnggnncccc	cccntcggg	480
ggttngggnc	aggnccnaat	tgtttaaggg	tccgaaaaat	ccctccnaga	aaaaaanctc	540
ccaggntgag	nnnnggggtt	nccccccccc	cangggccctt	ctcgnanagt	tgggggtttg	600
ggggcctggg	atttnttttc	ccctntttnc	tccccccccc	ccnqgganaq	aggltnnggt	660
tctgntcnnc	ggccccnccn	aaganttttn	coganttnan	ttaaatccnt	gcctngggca	720
agtcncttqn	agqgntaaan	ggccccclnn	cggg			754

<210> 21
 <211> 755
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc feature
 <222> (1)...(755)
 <223> n = A,T,C or G

atcancccat	gaccccnnaa	nnggggaccc	tcancoggnc	nnccnaacnc	cgcccnataa	60
nngttagnnc	actnccnttn	natcacnccc	cncnactac	gcccncnanc	cnacgcncct	120
nnccanctnc	actqunngcg	cgangtnqan	nqagaaanct	nalacnanag	ncaccanacn	180
ccagctgtcc	nanaangcct	nnnatacngg	nnnatecaat	ntgnanccct	cnasgtattn	240
nncnnccan	gattttcccln	anccgcttac	ccntnccccc	lanccctccc	cccccaacna	300
cgagggcncl	ggncnnaagg	nngegnccnc	ccgctagntc	cccnncasgt	cncnccncta	360
aactcnnccn	nal.lacnccg	tlcnl.gagta	tcactccccc	aatctcaccc	tactcaactc	420
aaaaanaten	gatccaaaat	aatncaagcc	cgattatnac	actntgactg	ggtctctatt	480
ttagnggttc	ntnaancntc	ctaatacttc	cagttctncc	tcnccaattt	ccnaanggct	540
cttlcngaca	gcantttttg	gttcccnntt	gggttctttan	ngaattgcc	ttcntngaac	600
gggctcntct	tttccctcgg	ttanccctgg	ttcncccggc	cagttattat	ttcccntttt	660
aaattcntnc	cntttanttt	tggcntccna	aaaccccggc	cttgaaaaag	gccccctggg	720
aaaaggttgt	tttganaaaa	tttttgcttt	gttcc			755

<210> 22
 <211> 849
 <212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(849)

<223> n = A,T,C or G

<400> 22

tttttttttt	tttttngtg	tngtctgtgc	ggtagaggct	tactacaant	gtgaanacgt	60
acgttnggan	taangcgacc	cgantctctag	gannccnccct	aaaatcanac	tgtgaagatn	120
atcctgnnna	cggaanggtc	accggungat	nntgctaggg	tgnccnctcc	cannncttn	180
cataactcng	nggcccgtgc	caccaccttc	ggcgccccng	ngnccgggoc	cggttcattn	240
gnnttaaccn	cactnngcna	ncgggttccn	ncccnncng	accnnggoga	tcgggggtnc	300
tctgtcttcc	cctgnagnon	anaaantggg	ccnccgnccc	ctttacccct	nnacaagcca	360
cngccntcta	ncnccngccc	cccctccant	nngggggaact	gccnanngtc	ccgttncctng	420
nnaccccnnn	gggttccctcg	gttgtctgant	cnaccgnang	ccanggatc	cnaagggaagg	480
tgcgttnttg	gccccctacc	ttcgtctnccg	nnccaccttc	ccgacnanga	nccgctcccg	540
cccnngnng	cctcncctcg	caacacccgc	netctctngt	ncggnncccc	ccccaccgcg	600
cccctcncnc	ngnccgnanc	ctcncncnc	ccaccccgcg	ccgcccggcc	cgccnccgaa	660
ntcancaccn	ggnggacnng	nagcnccntc	gcnccgcgcn	gcnccnccct	cgagccgncc	720
ctnccctcng	ccantnccgc	tcaancnncn	cnaaacggcg	ctccggcgcc	cgagccgncc	780
ncctcncngc	gtcctcccg	cttccnacc	angnttccn	cgaggacacn	nnccccgcg	840
nnccangcgg						849

<210> 23

<211> 872

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(872)

<223> n = A,T,C or G

<400> 23

gcgcbaacta	tacttctgtc	gnactcgtgc	gcctcgtctnc	tcttttctctc	cgcbaaccatg	60
tctgacnanc	ccgattnggc	ngatctcncn	aagntcgcnc	agtccaaact	gantaacaca	120
cacacnncn	aganaaatcc	ncctgcttcc	anagtanacn	attgaacnng	agaaccangc	180
nggcgaatcg	taatnaggcg	tgcgcgcgca	atntgtcncc	gtttattntn	ccagctcnc	240
ctnccnacc	taentctcn	nagctgtcnn	acccctngtn	cgnacccccc	naggtcggga	300
tgggttttn	nntgaccgng	cnnccctcc	ccccctccat	nacganccnc	ccgcaccacc	360
nanngcncgc	cccccggnct	cttcgcncnc	ctgtcctntn	ccccgtngc	ctggcnengn	420
accgcattga	ccctcgccnn	ctnccnngaaa	ncgnanacgt	ccgggttggn	annancgctg	480
tgggnngcg	tctgcnccgc	gttccctccn	nccncttcca	ccatcttct	tacnggggtc	540
ccnccctc	tccnnccncc	cctggggaagc	tnctcctngc	ccccctnac	tccccccctt	600
cgnccgtgnc	cgncccccacc	ntcatttncn	nacgntcttc	acaannncct	ggnatnctcc	660
cnancnngcn	gtcancnag	ggaagggnng	gggnccnntg	nttgacgttg	nggngangtc	720
cgaanantcc	tccnccctccn	cctaccctcc	cgggcggnct	ctcngttncc	aactlancac	780
ntctcccccg	ngnccnctc	tccgcclcnc	ccncccnct	ctcctgctng	tactctgctc	840
tccnccncc	ganccttccg	cncctctttt	cc			872

<210> 24

<211> 815

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(815)

<223> n = A,T,C or G

<400> 24

gcaggaagc	ttgaglatto	tatagngtca	cctaaatanc	ttggontaat	catggctnta	60
netqnettec	tgtgtcaaat	gtatacnaa	tanatatgaa	tcfnatntga	caagannqta	120
tentncatla	gtacaaantg	tantgtccat	cctgtongar	canatleccc	tnnattncgn	180
cgcattoncn	gnccantaln	taatngggaa	ntcnntnnn	ncacenncat	ctatcntncc	240
gnccctgac	lggnagagat	ggatnantle	lnntolgacc	ncatgttca	tcttggatln	300
aanancccc	cgengnccac	cggttngning	cnagccnntc	ccaagacctc	ctgtggaggl	360
aacctgcgtc	agannccatc	aaontgggaa	acccgcnncc	angtnnaagt	ngnnncanan	420
gaccccgtec	aggnttnacc	atcccttcnc	agcgccccc	ttngtgccct	anagngnagc	480
gtgtccnanc	cncctcacat	ganacgcgcc	agncancccg	caattnggca	caatgtcgnc	540
gaacccccct	gggggagnta	tncaaanccc	caggattgtc	cncncangaa	atcccnccnc	600
ccnccctac	ccncccttgg	gacngtgacc	aantccccga	gtncaggtcc	ggccngnctc	660
ccccaccggt	nnccntgggg	gggtgaanct	cngnntcanc	cnngcagagc	ntcgnaaagga	720
accggnccctn	ggncgaanng	ancnntcnga	agncccnct	cgtataaacc	cccctcncca	780
nccnacngnt	agntcccccc	cngggtncgg	aangg			815

<210> 25
 <211> 775
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)..(775)
 <223> n = A,T,C or G

ccgagatgtc	tgcgtccgtg	gccttcgctg	tgcctcgcgc	acletcletc	tctggccctgg	60
aggctatcca	gcgtacacca	aagattncgg	tttactcacg	tcatccagca	gagaatggaa	120
agtcasattt	ccgtgaattgc	tatgtgtctg	ggtttcaccc	atccgacatt	gaanttgact	180
tactgaagaa	tgganagaga	attgaaaaag	tggagcattc	agacttgtct	ttcagcaagg	240
actggtcttt	ctatctcctg	tactacactg	aattcacccc	cactgaasaa	gatgagtatg	300
cctgccgtgt	gaaccatgtg	actttgtcac	agcccaagat	agttaagtgg	gatcgagaca	360
tgtaaacagn	cnncatggaa	gtttgaagat	gccgcatttg	gattggatga	attccauatt	420
ctgcttgctt	gcnttttaat	antgatatgc	ntatacaccc	taacctttat	gnccccaat	480
tgtagggggt	acatnantgt	tcnctnngga	catgatcttc	ctttataant	ccnccnttcg	540
aattgcccgt	cncccggttn	ngaetgttcc	cnnaaccacg	gttgggtccc	ccaggtcncc	600
tcttacggaa	gggacctggc	cnctttncaa	ggttggggga	acnnaaaatt	tcncttctgc	660
ccncccncca	cnctcttgag	nnccnctttt	gggaccttcc	cnattcccct	tggcctcnna	720
nccttnncta	anaaaacttn	aanccqlngc	naaanncttn	acletcletc	ttacc	775

<210> 26
 <211> 820
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)..(820)
 <223> n = A,T,C or G

anattantac	agtgtaatct	tttcccagag	gtgtgtanag	ggaaacggggc	ctagaggcatl	60
ccanagata	nottatanca	acagtgcctt	gaccaagagc	tgtctgggcac	atttccclqca	120
gaaaagggtg	cggtccccat	cacttctctt	ctcccatagc	catcccagag	gggtgagtaq	180
ccatcangcc	ttcggtggga	gggagtcang	gaacaaacn	accaagagag	anacagacua	240
ntgatgacca	tgggcggggg	cgaqccctct	ccctgnaccg	gggtggcana	nganagccta	300
netgaggggt	cacactataa	acgtiaacga	ccnagalnbn	caucttcttc	aagtgcaccc	360
ttcctaacctg	acnaucaqng	acnnnaaci	gcngcctggg	gacagcnetg	ggancagcta	420
acnnagcaact	cacclgcacc	cccatggcng	tnegcntccc	tggctclgnc	aagggaagct	480
ccctgttgga	attncggggg	naccaaggga	ncccccctct	ccancctgtga	aggbaaann	540
gatgggaatt	lnccttcccg	gcccmtcccc	tcttccctta	caqccccct	ntactctntc	600
Lcctctctntt	ntcctgnenc	acttttnacc	ccnnnatctc	ccttnattga	tggannctn	660

ganattccac tnngeectne cntenateng naanaonaaa naetntetna cccnggggat 720
 gggneecteg nteateetct ettttttenel aacnccnntt etttgectet cctngatca
 780 tccaaacntc gntggcentn ccccccnnn tcccttnecc
 820

<210> 27
 <211> 818
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(818)
 <223> n = A,T,C or G

<400> 27
 tctgggtgat ggactcttcc tctcaggga cctctgactg ctctgggcca aagaatctct 60
 tgtttcttct ccgagcccca ggcagcgggtg attcagccct gcccaacctg attctgatga 120
 ctgaggatgc tgtgacggac ccaaggggca aatagggtcc cagggtccag ggaggggcgc 180
 ctgctgagca ctccggcccc tcacctgccc cagccccctgc catgagctct gggctgggtc 240
 tccgctcca gggttctgct ctccangca ngccancaa tggcgtggtg ccacactggc 300
 ttctcctgc cccntccctg gctctgante tctgtcttcc tgtcctgtgc angcnccttg 360
 gatctcagtt tccctcncctc anngaactct gttctgann tcttcantta actntgantt 420
 tatnaccnan tggnetgtnc tgtcnnactt taatgggccc gaccggctaa tccctccctc 480
 nctcccttcc anttonnnaa accngcttnc cntctctctc ccntancccg ccnggggane 540
 ctcccttggc ctnaccangg gccnnnaccg cccnlnctn ggggggcnng gttnctnnc 600
 ctgntnccc cncctcncl tccctcgccc cncnncgcn nngcannctc nengtccnn 660
 tnnctcttcn ngtatcgnaa ngntcncntn tnnnnngnch ngthnlncn tccctctcnc 720
 cnnnlgnang lanttnannc ncngnccccc nnnncannnn nggnantnnn tctnncngc 780
 cccnnccccc ngnattaagg cctccnntct ccggcanc 818

<210> 28
 <211> 731
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(731)
 <223> n = A,T,C or G

<400> 28
 aggaagggcg gagggatatt gtangggatt gagggatagg agnetaangg gggaggtgtg 60
 tcccaacctg anggtgnngt tctcttttga angaggggtg ngtttttann ccnggtgggt 120
 gattnaaccc catgtgatgg agnnaaagggt tttnagggat ttttcggctc ttatcagtat 180
 ntanattcct gtnaatcgga aatnatntt tcnnnnggaa aatnttgctc ccatcognaa 240
 attnctcccg ggtagtgcct nttngggggg cngccangtt tccagggctg ctanaatcgt 300
 actaaagntt naagtggan tncaatgaa aacctnncac agagnatccn taccogactg 360
 tnnnttncct tggccctng actctgcnng agcccaatac ccnngngnat gtnccccnng 420
 nnnngcgnnc tgaaannnnn tngnggctnn gancatcang ggggtctgca tcaaaagcnn 480
 cgttttncat naagggcact tngcctcctc caaccnctng cctcnncca ttngccgtc 540
 nggttncct acgctnntng cncctnntn ganattttnc ccgcctnggg naancctcct 600
 gnaatgggtg gggntttntc ttttnacnn gnggtntact aatcnnctnc acgctnctt 660
 tctnaccoc ccccttttt caatccanc ggcnaatggg gtctcccnnc ogangggggg 720
 nnnccannnc c 731

<210> 29
 <211> 822
 <212> DNA
 <213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(822)
 <223> n = A,T,C or G

<400> 29
 actagtcacag tctggtggaa ttccattgtg ttgggggncc ttctatgant antnttagat 60
 cgtccanacc tcacancctc ccnaccnangc ctataangaa nannaataga netgtncnnt 120
 atntntacnc tcatannoct cnnnaccac tcacctctaa cccntactgt gectatngcn 180
 tnnctantct ntgcgcctn cnanccacen gtgygcacac cncnngnatt ctenatctcc 240
 tcnccatntn gectananta ngtnccatcc clalacccac nccaatgctc nnnctaanen 300
 tccatnanlt annnlaacta ccactgacnt ngactttenc atnancctct aatllgaatc 360
 tactctgact cccacngcct annnattagc ancnlccccc nactatntct caacccaatc 420
 ntcaaccccc ctctctactg ltcnccaaac nttnccctcg atcccccnc aaccccccctc 480
 ccaataccc nccacctgac ncccaaccn ccccatcccg gcaagccnen ggnccattan 540
 cccctgggaat cactatngga naaaaaaac crnaactctc tanncnmat ctccctaana 600
 aatnctcctn naatttactn ncantnccat caanccacn tgaaacnnaa cccctgtttt 660
 tanatccctt ctttcgaaaa ccnacccttt annncccaac ctttngggcc ccccnctnc 720
 ccaatgaag gncncccaat cnangaaacg nccntgaaa ancnaggcna anannntccg 780
 canatccat cccctanttn ggggnccctt nccnngggcc cc 822

<210> 30
 <211> 787
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(787)
 <223> n = A,T,C or G

<400> 30
 cggccgcctg ctctggcaca tgcctcctga atggcatcaa aagtgatgga ctgcccattg 60
 ctagagaaga ccttctctcc tactgtcatt atggagccct gcagactgag ggctccctt 120
 gtctgcagga tttgatgtct gaagtctgg agtgtggctt ggagctcctc atctacatna 180
 gctggaagcc ctggagggcc tctctcgcca gcctccctt tctctccacg ctctccangg 240
 acaccagggg ctccaggcag cccattatc ccagnangac atggtgttcc tccacgcgga 300
 cccatggggc ctgnaaggcc aggtctctct ttgacacccat ctctcccgtc ctgctggcca 360
 ggccgtggga tccactant ctanaaccgn cgcacccncg gtgggagctc cagcttttgt 420
 tccnttaat gaaggttaat tgcncgcttg gogtaatcat nggtcnaac tnttccctgt 480
 gtgaaattgt ttntccctc ncnattccnc ncnacatacn aaccgggaan cataaagtgt 540
 taaagcctg ggtngcctn nngaataaac tnaactcaat taattgcgtt ggtcatggc 600
 ccgctttccn ttctnggaaa ctgtctntcc ctgcttntt gaatcgggca ccccccnggg 660
 aaaaagcgl lgcnttttnq gggntcctt ccncttccc cctcncctaa cctnccgcl 720
 ccgctgttnc nqgtngcggg gaangggat nnnclccnc naagggggg agnnngtat 780
 ccccaa 787

<210> 31
 <211> 799
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(799)
 <223> n = A,T,C or G

<400> 31
 tttttttttt tttttttggc gatgctactg ttttaattgca ggaggtgggg gtgtgtgtac 60
 catgtaccag ggtattaga agcaagaagg aaggaggagg ggcagagcgc cctgctgagc 120
 aacaaaggac lccctgcagc ttctctgtct gtctcttggt gcaggacat ggggaggcct 180
 cccgaggggt gggggccccc agtcuagggg tggagagcact acnnggggtg ggaagtgggtg 240
 qtgctgglc cnaatggccc yncacanaac cctacgaltc ttagaacctg gatttcauca 300

```

ggggaccttc tgttctccca nggnaacttc ntnnatcton aaagaacaca actgtttctt 360
cngcanttct ggtgttcat ggaagcaca ggtgtconat ttinggetgg acttggtaca 420
tatggttcog gccacctct cccntcnaa aagtaattca ccccccccn cctctnttg 480
cctgggccct taantaccca caccggaact canttanta ttcattctng gntgggcttg 540
ntnatcnccn cctgaangcg ccaagttgaa aggccacgcc gtncccnctc cccatagnan 600
nttttnnctn canctaagtc cccccnggc aacnatacaa tcccccccn tgggggcccc 660
agcccanggc ccccgnetcg ggnnnccngn cncgnantcc ccaggntctc ccantcngnc 720
ccnnngcncc cccgcacgca gaacanaagg ntngagccnc cgcunnnnnn nggtnnnnc 780
ctcgccccc cennccgng

```

```

<210> 32
<211> 789
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(789)
<223> n = A,T,C or G

```

```

<400> 32
tttttttttt tttttttttt tttttttttt tttttttttt tttttttttt tttttttttt 60
tttttncnag ggcaggttta ttgacaacct cncgggaacac aancaggctg gggacaggac 120
ggcaacaggc tccggcgggcg gggcgggcgg cctacactgc ggtaccaaatt ntgcagcttc 180
cgctcccgct tgatnttctt ctgcagctgc aggatgcctt aaaacagggc ctgggcnctn 240
ggtgggcaac ctgggatttn aatttccaog ggcacaatgc ggtcgcancc cctcaccacc 300
nattaggaat agtggnttta cccnccnccg ttggcncaact ccccntggaa accacttntc 360
ggcgctccgg catctggtct taaaccttgc aaacnctggg gccctctttt tggttantnt 420
nccngccaca atcatnactc agactggcnc gggutggccc caaaaaanct cccccaaaac 480
ggncatgtc ttncgggggt tgcctgcnatn tncal.cact cccgggcncn ncaggncaac 540
ccaaaagttc ttgnggcccn caaaaaanct ccggggggnc ccagtttcaa caaagtcac 600
cccc.lggcc cccaaatcct cccccgntt nctgggtttg ggaacccaag cctctnnctt 660
tggngggcaa gntggntccc ccttcggggc ccgggtgggc cennctctaa ngaaaaoncc 720
ntcctnnnca ccatercccc nngnnacgnc tancaangna tccctttttt tanaaacggg 780
ccccccncc

```

```

<210> 33
<211> 793
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(793)
<223> n = A,T,C or G

```

```

<400> 33
gacagaacat gttgggtggg ggaagcactt tctatacgac ttacaggaca gcagatgggg 60
aatl.calgc tgttgagaca atanaacccc agttctacga gctgctgatc aaaggacttg 120
gactaaagtc tgatgaactt cccaatcaga tgagratgga tgattggcca gaaatgaana 180
agaagtttgc agatgtattt gcaagaaga cgaaggcaga gtggtgtcaa atctttgacg 240
gracagatgc ctgtgtgact ccggttctga ctittgagga ggttgttcat catgatcaca 300
acaangascg gggctcgttt atcaccantg aggaagcagga cgtgagcccc cgccctgcac 360
ctctgctgtt aaacaccccc gccatccctt ctttcaaaag ggtccacta ctctagagc 420
ggncgccacc gcggtggagc tccagctttt gttcccttta gtgaggggta attgcgcgct 480
tggcgtaatc atggtcatan ctgtttcctg tgtgaatttg ttatccgcte acaattccac 540
acaacatacg anccggaagc atnaaatttt aaagcctggg ggtngcctaa tgantgaact 600
nactcacatt aattggcttt gogotcactg ccgcttttcc agtcgggaaa acctgtcctt 660
gccagctgcc nttaatgaat onggccaccc cccggggaaa aggcngittg cttnttgggg 720
cgcnettcoc gttttctcgc ttcttgaant ccttcccccc ggtctttcgg cttgcggcna 780
acggtatcna cct

```

<210> 34
 <211> 756
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(756)
 <223> n = A,T,C or G

<400> 34
 gccgcgaccg gcatgtacga gcaactcaag ggcgagtga accgtaaaag ccccaatctt 60
 ancaagtgcg gggaanagct gggtcgactc aagctagttc ttctggagct caacttcttg 120
 ccaaccacag ggaccaagct gaccaaaacag cagctaattc tggcccgtag catactggag 180
 atcggggccc aatggagcat cctacgcaan gacatccctt ccttcgagcg ctacatggcc 240
 cagctcaaat gctactactt tgattacaan gagcagctcc ccgagtcagc ctatatgcac 300
 cagctcttgg gctcaacct cctcttcctg ctgtcccaga accgggtggc tgantnccac 360
 acgganttgg anoggctgcc tgcccanga catacanacc aatgtctaca tcnaccacca 420
 gtgtcctgga gcaztactga tgganggcag ctaccncaa gtnttcctgg ccnagggtaa 480
 catcccccgc cgaagagctac accttcttca ttgacatuct gctcgacact atcagggatg 540
 aaaaatcgng ggttgctcca gaaaggctnc aanaanatcc ttttctctga agggcccccgg 600
 atnctctagt nctagaaatc gcccgccatc gcggtgganc ctccaaacct tcgttncct 660
 ttactgaagg tlnattgccg ccttggcgt tctcatggc acncangttt cctgtgttga 720
 aatlnliaac cccccacat tccacgcena ccttng 756

<210> 35
 <211> 834
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(834)
 <223> n = A,T,C or G

<400> 35
 ggggatctct anactnacct gnatgcattg ttgtcgggtg ggtcgcctgc gatgaanatg 60
 accaggtctc tgcctttgaa gctctcggct gctgtnttta agttgctcag tctgcgcgta 120
 tagtcagaca cncctttggg caaaaaacan caggatntga gtuttgattt caccctccat 180
 aatcttongg gctgtctgct cgggtgaactc gatgaanag qccagctggt tgtgtntgat 240
 aaanlccanc angttctct tggtagcctc ccccttcaag ttgttccggc cttcatcaaa 300
 cttctnnaan angannance canctttgtc gagctggnc llgganaaca cgtcactgtt 360
 ggaaactgat cccaaatggg atgtcatcca tgcctctcgc tgcctgcaaa aaacttgctt 420
 ggcncaaate cgaactcccn tcttgaaag aagccnatca cccccccctc cctggactcc 480
 nncaangact ctncgcctnc ccentccng cagggttggg ggcanaccgg gccentgcgc 540
 ttcttcagcc agttcaacat ntcatcagc cctctgcga gctgttntat tcttggggg 600
 ggaanccgct tctccttcc tgaannaact ttgacogtng gaatagccgc gcntcnccnt 660
 acntnctggg ccgggttcaa antcctccn ttgncnntcn cctcgggcca ttctggattt 720
 nccnaacttt ttccttccc cncceccgg ngtttggntt tttcatnggg ccccaactct 780
 getnttggcc antccctgg gggcctntan cnccectnt ggtccctng ggc 834

<210> 36
 <211> 814
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(814)
 <223> n = A,T,C or G

<400> 36

cggnccgcttt	ccngccgcgc	cccgtttcca	tgacnaaggc	tcccttcang	tcaaatcaann	60
cctagnaaac	attaatgggt	tgtctacta	atacatcata	cnacccagta	agcctgccca	120
naacgccaac	tcaggccatt	cctaccaaag	gaagaaaggc	tggctctctc	ccccccigta	180
ggaaaggcct	gccttgtaag	acaucaaat	ncggctgaat	ctnaagtcct	gtgttttact	240
aatggcaaaa	aaaaataaac	aanaggtttt	gtlctcatgg	ctgcccaccg	cagcctggca	300
ctaaaaacac	ccagcgutca	cttctgcttg	ganaaatatt	ctttgctctt	ttggacatca	360
ggcttgcttg	talcaactgc	acnttlccac	ccagctgggc	ncctttccc	catntttgtc	420
enlqanctgg	haggcctgaa	nottagtctc	caasagctct	ngcccccaag	accggccacc	480
aggggangtc	ntttncagtg	gctclgccc	enantaccen	tctcatcnnt	gaataaaaaag	540
gcccclgaac	ganatgcttc	cancancctt	taagacccat	aatcctngaa	ccatgggtgcc	600
cttcgggtct	gacccnaaag	gaatgttctt	gggtcccant	ccctcctttg	tttcttaagt	660
tgtnttggac	ccntgctngn	atnaccnaan	tganaacccc	ngaagcaccc	tncccttggc	720
atttganitt	cntaaattct	ctgccctacn	nctgaaagca	cnattccctn	ggcnccnaan	780
ggngaactca	agaaggctctn	ngaaaaacca	cncn			840

<210> 37
 <211> 760
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1}... (760)
 <223> n = A, T, C or G

<400> 37						
gcattgtgtct	ctlccctcaaa	gttgttctttg	ttgccat:acc	aaccaccata	ggtaaagcgg	60
gcgcagtgtt	cgttgaaagg	gttgtagtac	cgcgcggga	tgtctctctt	gcagagtcc	120
gtgtctggca	ggtcocagca	atgccclttg	tcactggga	aatggatgcg	ctggagctcg	180
tcnaaaccac	tgtgtattt	ttcacangca	gcctcctccg	aagctccgg	gcagttgggg	240
gtgtcgtcac	actccactaa	actgtcgatn	cancagccca	ttgctgcagc	ggaactgggt	300
gggtcgacag	gtgccagaac	acactggatn	ggcctttcca	tggaaaggcc	tgggggaaat	360
cncctnanc	caaaactgct	ctcaaaaggcc	accttgcaaa	cccgacagc	ctagaaatgc	420
actctttctt	ccaaaggtag	ttgttctttg	tgcccaagca	ncctccanca	aacczaaanc	480
ttgcaaaatc	tgtctcgttg	gggtcatnnn	taocanggtt	ggggaaaana	acccggcngn	540
ganccnccct	gtttgaatgc	naaggnaata	atcctcctgt	cttgccttgg	tggaaagca	600
caattgaact	gttaacnttg	ggccnggttc	cnctnggggt	gtctgaaact	aatcacgcgc	660
actggaaaaa	ggtangtgcc	ttccttgaat	teccaaantt	ccctngntt	tgggtntttt	720
ctcctctncc	ctaaaaatcg	ntttccccc	cnctangggc			760

<210> 38
 <211> 724
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1}... (724)
 <223> n = A, T, C or G

<400> 38						
tttttttttt	tttttttttt	tttttttttt	tttttaaaaa	ccccctccat	tgaatgaaaa	60
cttccnaaat	tgtccaaacc	cctcnnccaa	atnnccattt	ccgggggggg	gttccaaacc	120
caaatteatt	ttgganttta	aattaaatnt	tnattngggg	aanzaanccaa	atgtnaagaa	180
aatttaacc	attatnaact	taaatnccn	gaaccccntg	gnttccaaaa	atttttaacc	240
cttaaatccc	tccgaatttg	ntaanggaaa	accaaattcn	cctaaggctn	tttgaagggt	300
ngatttaaac	ccccctnant	ctttttnacc	cnngnctnaa	ntatttngnt	tccgggtgtt	360
tccntttaan	cntnggtaac	tcccgntaat	gaannncct	aanccaatta	aacogaattt	420
tttttgaatt	ggaaattccn	nggggaattna	ccgggggttt	tcccnitttg	gggcacalnc	480
ccncttttug	gggtttgggn	ntaggttgaa	ttttttnang	ncccaaaaaa	ncccccaaas	540
aaaaaacctc	caagntttaa	ctngaantnc	ccccctccaa	ggccttttgg	gaaggngggg	600
tttntgyggg	ccngggantt	cnllccccc	ttncncccc	cccccnnggt	aaanggttat	660

ngnnntttggt ttttgggccc ctttannngac ctccgggatn gaaattaaat ccccgggncg 720
gcg 724

<210> 39
<211> 751
<212> DNA
<213> Homo sapien

<220>
<221> misc feature
<222> (1)...(751)
<223> n = A, T, C or G

<400> 39
tttttttttt tttttctttg ctcccatlta atttttallt tgattttttt taatgctgca 60
caccacaata tttaallinat ttgtttcttt tttttcattt tttttgtttg ctgctgctgt 120
tttatttttt tttactgaaa gtgagagggg actttttgtg ctttttttcc tttttctgta 180
ggccgcctta agctttctta atttggaca tctaagcaag ctgaanggaa aaggggggtt 240
cgcaaaatca ctggggggaa nggaaaggtt gctttgttaa tcatgcccta tgggtgggtga 300
ttaactgctt gtacaattac ntttcaattt taattaattg tgcnaangc ttaattana 360
cttggggggt cctcccccac accaaccrcn ctgacaaaaa gtgcccngccc tcaaatnatg 420
tcccgccnnt cnttgaacaa cacngcngaa ngttctcatt ntcccccnc caggtnaaaa 480
tgaaggggta ccatntttta cncacccctc acntggcnnn gcctgaatcc tcnaaaanch 540
cctcaanch aatttctnng ccccggtcnc gmttngtcc cncccgggtt ccgggaantn 600
cacccccnga annccntnnc naacnaaatt ccgaaatat tcccnntcnc tcaattcccc 660
cnnagactnt cctcnncnan cncattttct tttnttcae gaacnccnnc cnaaaatgn 720
nnnnccctc cncngtccn naatnccan c 751

<210> 40
<211> 753
<212> DNA
<213> Homo sapien

<220>
<221> misc feature
<222> (1)...(753)
<223> n = A, T, C or G

<400> 40
gtggtatatt ctgtaagatc aggtgttcct cctcgtagg tttagagqaa ccaccctcat 60
agatgaaaac ccccccagaa cagcagcaat gcaactgcca agcagccagg glaggagggg 120
cgccctatgc acagctgggc ccttgagaca gcagggttc gatqtcagg tcatgtcaa 180
tgggtctggaa gggcggggtg tacctgcgta ggggcacauc gtccggggcc accaggbaat 240
tctcaaggtt ccaggcaach tegtgcgac acaccggag ccaggtgatn agcttgggtt 300
cggtcataan cgggtgggc tegtgcgag gagctggcag ggctcccg caggaggcna 360
ataaaaggtg cggccccgca ccttccnct cgcacttctc naanaccatg angttgggt 420
cnaaccacc accannccgg acttccllg nggaatlcc aaatctcttc gntcttggc 480
ttctnctgat gcccctnctg qttgcccngn atgccaanch nccccancc ccggggtcct 540
aaanccacc cctccclntt lcatclgggt tntntcccc ggaacntggt tccctcagg 600
ggancccata tctnaccan tactcaccnt nccccccnt gnaaccanc cttctanngn 660
tcccccncg nccclggc cntcaaanan gcttncaana cctgggtctg ccttcccccc 720
tncctatct gnaaccnch tttgtctcan tnt 753

<210> 41
<211> 341
<212> DNA
<213> Homo sapien

<400> 41
actatatcca tcacaacaga catgttcat cccatagact tcttgacata gcttccaatg 60
agtgaacca tcttgattt atatacat atgttctcag tattttggga gcttccac 120
ttctttaaac ctgttcat atgaaactg aaataqaa tttgtgaaga gttaaaaagt 180

tatagcttgt	ttaohtagta	agtttttgaa	gtctacattc	aatccagaca	cttagttgag	240
tggtaaactg	tgatttttaa	aaaatatcat	ttgagaatat	tctttcagag	gtaatttcat	300
ttttaacttt	tgattaattg	tgttttatct	attagggtag	t		341

<210> 42
 <211> 101
 <212> DNA
 <213> Homo sapien

<400> 42						
aattactgaa	tttagttctg	tgctcttctc	tatttctgtg	tgctatcctaa	ctacttttcat	60
gtttcacaaca	ttctaaataa	atcaattttca	gtggcttctat	a		101

<210> 43
 <211> 305
 <212> DNA
 <213> Homo sapien

<400> 43						
acatcttttgt	tacagtctaa	gatgtgttct	taaatacaca	ttccttctctg	gtcctcacc	60
tccagggttg	tctcacactg	taattagagc	tattgaggag	tctttacagc	aaattaagat	120
tcagatgctt	tgctaagtct	agagttctag	agttatgttt	cagaaagtct	aagaaaccca	180
cctcttgaga	ggtcagtaaa	gaggacttaa	tatttctatat	ctacaaaatg	accacaggat	240
tggatacaga	acgagagtta	tcctggataa	ctcagagctg	agtacctgcc	cgggggcccc	300
tcgaa						305

<210> 44
 <211> 852
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (852)
 <223> n = A, T, C or G

<400> 44						
acataaatat	cagagaaaag	tagtctttga	aatatttaac	tccaggaggt	ctttgtttct	60
gattatttgg	tggtgttttt	ggtttgtgtc	caaagtattg	gcagcttcag	ttttcatttt	120
ctctccatcc	tcgggcattc	ttccaaaatt	tatataccag	tcttcgtcca	tccacacgct	180
ccagaatttc	tctttttag	taatatctca	tagctcggct	gagcttttca	taggltcalgc	240
tgctgttgtt	cttcttttta	ccccatagct	gagccactgc	ctctgatttc	aggaacctga	300
agacgccttc	agatcgggtc	tcccatttta	ttaatcctgg	gttcttctgt	gggttcaaga	360
ggatgtccgc	gatgaattcc	cataagtgag	tccctctcgg	gttqlgcttc	ttggtgtggc	420
acttggcagg	gggttcttgc	tcctttttca	tatcaggtga	ctctgcacac	ggaaggtgac	480
tggtggllgt	catggagatc	tgagcccgcc	agaaaglttt	gctgttccac	aaactctactg	540
tgctaccata	gttgggtgtc	tataaatagt	tctnctcttt	ccagggtgtc	atgatggaag	600
gctcagtttg	tccagttctg	acactgacat	tggtgtgtgg	ctggacacag	tcactactgc	660
actggccgtt	ccacttcaga	tgctgcacgt	tgctgtagag	gagntgcccc	gocgtccctg	720
ccgcccggtt	gaactcctgc	aaactcctgc	tgcaaggttg	ctcgcggttg	atgtcgaact	780
cntggaaagg	gatacaattg	gcctccagct	ggttggtgtc	caggaggtga	tgagagccact	840
cccacacctg	gt					852

<210> 45
 <211> 234
 <212> DNA
 <213> Homo sapien

<400> 45						
acaacagacc	cttgcctcgt	aacgacctca	tgctcatcaa	gttggacgaa	tccqlgtccg	60
agtctgacac	catccggagc	atcagcattg	cttcgcagtg	ccctacccgc	gggaacctctt	120
gcctcgtttc	tggtctgggt	ctgctggcga	acggcagaat	gcctacccgtg	ctgcagtgccg	180

tgaacgtgtc ggtgggtgtct gaggaggtct gcagtaagct ctatgacccg ctgt 234

<210> 46
 <211> 590
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(590)
 <223> n = A,T,C or G

<400> 46
 acttttttatt taaatgttta taaggcagat ctatgagaat gatagaaaac atgggtgtgta 60
 atttgatagc aatatttttg agattacaga gttttagtaa ttaccaatta cacagttaa 120
 aagaagataa tatattccaa gcanatacaa aatatctaata gaasgatcaa ggcaggaaaa 180
 tgantataac taattgacaa tggaaaatca attttaatgt gaattgcaca ttatccttta 240
 aaagctttca aaanaanaaa ttattgcagt ctanttaatt caaacagtgt taaatgggtat 300
 caggataaan aactgaaggg canaaaagaat taattttcac ttcatgtaac ncacccanac 360
 ttacaatggc ttaaatgcan ggaaaaagca gtggaagttag ggaagtanc aaggtctttc 420
 tggctctctaa tctgccttac tctttgggtg tggctttgat cctctggaga cagctgccag 480
 ggctcctgtt atatccacaa tcccagcagc aagatgaagg gatgaaaaag gacacatgct 540
 gccttccttt gaggagactt catctcactg gccaacactc agtcacatgt 590

<210> 47
 <211> 774
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(774)
 <223> n = A,T,C or G

<400> 47
 acaagggggc ataatgaagg agtggggana gatttttaag aaggaaaaaa aacgaggccc 60
 tgaacagaat tttcctgnac aacggggcct caaataaatt ttcttgggga ggttcaagac 120
 gcttcactgc ttgaaactta aatggatgtg ggaanaaatt ttctgtaatg accctgaggg 180
 cattacagac gggacclclg qaggaaggat aaacagaaag gggacaaagg ctaatcccaa 240
 aacatcaagg aaaggaaqgt gggtcatalc ctccagcct acacagttct ccagggtct 300
 cctcaterct ggaggacgac aglqagggaa caactgaaa lqlcuccagg ctctgtgtg 360
 ctggctcctg gtcttcagcc cccagctctg gaagcncac ctctgtgtat cctgctggc 420
 ccacactcct tgaacacaca tcccaggtt atattcctgg acclqgctga acctcctatt 480
 cctaacttcg agatgccttg ctccctgcag cctgtcaaaa tcccactcgc cclouaaaac 540
 acggcatggg aagcctttct gacttgcctg attactccag catcllqaa caatccctga 600
 ttcccactc cttagaggca agatagggtg gttaaagata gggctggacc ecttggagcc 660
 aggtgtgtgg cttcaaattn tggctcattt acgagctatg ggaccttggg caagtnatct 720
 toacttctat gggcmtcatt ttgttctacc tgcaaaatgg gggataataa tagt 774

<210> 48
 <211> 124
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(124)
 <223> n = A,T,C or G

<400> 48
 canaaattga aattttataa aaaggcattt ttctcttata tccalaaaat gatataattt 60
 ttgcaantat anaastgtgt cataaattat aatgttctcl aaltacggct caacgcact 120

tggt

124

<210> 49
 <211> 147
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc feature
 <222> {1}...{147}
 <223> n = A,T,C or G

<400> 49

gccgatgcta ctatttttatt gcaggagggtg ggagtggtttt tattattctc tcaacagctt 60
 tgttgctaca ggtgggtgtct gactgcatna aaaaattttt tacgggtgat tgcaaaaatt 120
 ttagggtuacc catatcccaa qcantgt 147

<210> 50
 <211> 107
 <212> DNA
 <213> Homo sapien

<400> 50

acattaaatt aataaaagga ctgttgggggt tctgctaaaa cacatggctt gatattattgc 60
 atggtttgag gttaggagga gttaggcata tgttttggga gagggggt 107

<210> 51
 <211> 204
 <212> DNA
 <213> Homo sapien

<400> 51

gtctatggaa gtctagggga cacacgactc tggggtcacg gggccgacac acttgccagg 60
 cgggaaggaa aggcagagaa gtgacaccgt caggggggaaa tgacagaaag gaaatcagg 120
 gccttgcaag gtcagaaagg ggactcaggg ctccaccac agccctgccc cacttggcca 180
 cctccctttt gggaccagca atgt 204

<210> 52
 <211> 491
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> {1}...{491}
 <223> n = A,T,C or G

<400> 52

acasagatae catttatctt ataacaasaa tttgatagtt ttaaagggtt gtatttggla 60
 ggggtatltc caasagacta aagagataac tcaggtaaaa agttagaaat gtataaaca 120
 ccatacagaca ggttttttaa aaacaacata ttacaaaatt agacaatcat ctttaaaaaa 180
 aaaaacttctt gtatcaattt ctittgttca aaatgactga cttaantatt tttaaatatt 240
 tcanasacac ttcctcaaaa attttcaana tggtagcttt canatgtacc ctacgtccca 300
 atgttgctca gataaataaa tctcgtgaga acttaccacc caccacaagc ttcttggggc 360
 atgcaacagt gtcttttctt tnccttttct ttttttttt ttacaggcac agaaactcat 420
 caatttttatt tggataacaa aggggtctcca aattatattg aaaaacaaat ccaagttaat 480
 atcactcttg t 491

<210> 53
 <211> 484
 <212> DNA
 <213> Homo sapien

21

<220>
 <221> misc_feature
 <222> (1)...(484)
 <223> n = A,T,C or G

<400> 53
 acataattta gcagggctaa ttaccataag atgctattta ttaanaggtn tatgatctga 60
 gtattaacag ttgctgaagt ttggtatttt tatgcagcat ttctttcttg ctttgataac 120
 actacagaac cottaaggac actgaaaatt agtaagtaaa gttcagaaac attagctgct 180
 caatcaaatc tctacataac actatagtaa ttaaaaacgt aaaaaaagt gttgaaatct 240
 gcactagtat anacogctcc tgtcaggata anaactgctt ggaacagaaa gggaaaaanc 300
 agctttgant ttctttgtgc tgatangagg aaaggctgaa ttaccttggt gctctctcct 360
 aatgattggc aggtcnggta aatnccaaaa catattccaa ctcaacactt cttttccncg 420
 tancctgant ctgtgtattc caggancagg cggatggaat gggccagccc noggatgttc 480
 cant 484

<210> 54
 <211> 151
 <212> DNA
 <213> Homo sapien

<400> 54
 actaaacctc gtgcttgtga actccataca gaasacgggtg ccattccctga acacggctgg 60
 ccaactggga tactgctgac aaccgcaaca acaaaaacac aaatccctgg cactggctag 120
 tctatgtcct ctcaagtgcc tttttgtttg t 151

<210> 55
 <211> 91
 <212> DNA
 <213> Homo sapien

<400> 55
 acctggcttg tctcgggtg gttccgggg cccccacgg tcccagaaac ggacactttc 60
 gccctcncgt ggataclaga gccaaaglgg t 91

<210> 56
 <211> 133
 <212> DNA
 <213> Homo sapien

<400> 56
 ggccgatgtg cgttggttat atacaaatat gtcattttat gtaegggact tgagtatact 60
 tggatttttg gtatctgtgg gttgggggga cgttccagga accaataacc catggatacc 120
 aagggaacac tgt 133

<210> 57
 <211> 147
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(147)
 <223> n = A,T,C or G

<400> 57
 actctggaga acctgagccg ctgctccgcc tctgggatga ggtgatgcan gcngtggcgc 60
 gactgggagc tgagcccttc cctttgcgcc tgcctcagag gattgttgcc gacntgcana 120
 tctcantggg ctggatncat gcagggt 147

<210> 58

22

<211> 198
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)..(198)
 <223> n = A,T,C or G

<400> 58
 acagggatct aggttttnaag ttattgtnat tgtaaaatac attgaatttt ctgtatactc 60
 tgattacata caittatcct ttaaaaaaga tgtaaatcct aatttttatg ccatctatta 120
 atttaccaat gagttacott gtaaatgaga agtcattgata gcautgaatt ttaactagtt 180
 ttgacttcta agtttggg 198

<210> 59
 <211> 330
 <212> DNA
 <213> Homo sapien

<400> 59
 acaacaaatg ggttgtagg aagtcttctc agcaaaactg gtgatggcta ctgaaaagct 60
 caattgaaaa ttatcattaa tgattttaaa tgacaagtta tcaaaaactc actcaatttt 120
 caactgtgct agcttgctaa aatgggagtt aactctagag caaatatagt atcttctgaa 180
 tacagtcaat aatgacaaa gccagggcct acaggtgggt tccagacttt ccagacccag 240
 cagaagggaat ctattttctc acatggatct ccgtctgtgc tcaaaatacc taatgatatt 300
 ttctgtcttt attggacttc tttgaagagt 330

<210> 60
 <211> 175
 <212> DNA
 <213> Homo sapien

<400> 60
 accgtgggtg ccttctacat tcttgacggc tctttacca acatctgggt ctacttgggc 60
 gtctggggtc ccttctctt catctctc cagctgggtg tctctctcga ctttgcgcac 120
 tcttggaacc agcgttggtc gggcaaggcc gaggagtgcg attcccggtc ctggt 175

<210> 61
 <211> 154
 <212> DNA
 <213> Homo sapien

<400> 61
 aocnactttt tcttctctg agcagtcctg acttctcact gctacatgat gagggtaggt 60
 ggttggtgct cttcaccagt atctctcctc tctcggtct gctgagccgg accgagtgac 120
 tggactgcac agccccgggg ctccacattg ctgt 154

<210> 62
 <211> 30
 <212> DNA
 <213> Homo sapien

<400> 62
 cgctcgagcc ctatagtgag cgtattaga 30

<210> 63
 <211> 89
 <212> DNA
 <213> Homo sapien

<400> 63

acaagtcatt tcagcaccct ttgctcttca aaactgacca tcttttatat ttaatgcctc 60
ctgtatgaal aaaaatggtt atgtcaagt 89

<210> 64
<211> 97
<212> DNA
<213> Homo sapien

<400> 64
accggagtaa ctgagtcggg acgctgaatc lgaatccacc aataaataaa ggttctgcag 60
aatcagtga tccaggattg gtccttggat ctgggt 97

<210> 65
<211> 377
<212> DNA
<213> Homo sapien

<220>
<221> misc feature
<222> (1)...(377)
<223> n = A,T,C or G

<400> 65
acaacaanaa ntcccttctt taggcactg atggaaacct ggaacccct tttgatggca 60
gcattggctc ctgggccttg acacagcggc tggggtttgg gctntccaa accgcacacc 120
ccacccctgg ctaccacaa nttctggcta tgggctgtct ctgccactga acatcagggt 180
tcggtcctaa natgaatcc caanqgggc agaggtcagt agaggaagct caatgagaaa 240
ggctctgttt gctcagcccq aaaaacgclq cctggcattc gccgctgaa tatgaacccg 300
tgggggtgaa ctaccccan gaggaalcat gcttggguga tqcaanggtg ccacacaggag 360
ggcggggagg agcatgt 377

<210> 66
<211> 305
<212> DNA
<213> Homo sapien

<400> 66
agcccttctc ctacagaattc agggaaagaga ctgtcgcctg ccttcctccg ttgttgctg 60
agaaacgctg tgcctcttcc caccatctcc accctcgctc catctttgaa ctcaaacacg 120
aggaactaac lgaauclqg tctctctccc agtcccagc tcacctcca tccctcact 180
tccctcactc taagggatat caacactgcv cagcacaggg gccctgaatt tatgtggtt 240
ttatatatt ltaataaga lgcactttat gtcctttttt aataaagctc gaagaattac 300
tgttt 305

<210> 67
<211> 385
<212> DNA
<213> Homo sapien

<400> 67
actacacaca ctccacttgc ccttgtgaga cactttgtcc cagcacttta ggaatgctga 60
ggtoggacca gccacatctc atgtgcaaga ttgccagca gagatcaggt ctgagagttc 120
cccttttaaa aaaggggact tgcctaaaaa agaagtctag ccacgattgt gttagagcagc 180
tgtgtgtgtc tggagattca cttttgagag agttctctc tgagacctga tctttagagg 240
ctgggcagtc ttgcacatga gatggggtg gtctgatctc agcactcctt agtctgcttg 300
cctctccag gcccccagcc tggccacacc tgcctacagg gcactctcag atgccatac 360
catagtttct ctgtatgtgg accgt 385

<210> 68
<211> 73
<212> DNA
<213> Homo sapien

<400> 68
acttaccag atatatttcc accccagatg ggggattctt ttgtaaaaaa tgaaaataaa 60
gttttttttaa tgg 73

<210> 69
<211> 536
<212> DNA
<213> Homo sapien

<220>
<221> misc feature
<222> (1)...(536)
<223> n = A,T,C or G

<400> 69
actagtccag tgtggtggaa ttccattgtg ttgggggctc tcacctctct ctctgcagc 60
tccagctttg tgcctctgct ctgaggagac catggcccag catctgagta cctctgctgt 120
cctgctggcc accctagctg tggccctggc ctggagcccc aaggaggagg ataggataat 180
cccgggtggc atctataacg cagacctcaa tgatgagtg gtacagcgtg ccttcaactt 240
cgccatcagc gagtataaca aggccaccac agatgactac tacagacgtc cgtgcgggt 300
actaaggacc aggcacacaga ccgttggggg ggtgattac ttcttcgacg tagaggtggg 360
ccgaaccata tgtaccaagt ccagccccaa cttggacacc tgtgccttuc atgaacagcc 420
agaactgcag aagaaccagt tgtgctcttt cagagctctc gaagttccct ggggagaca 480
gaangtccct gggtagaatc cagggtgtca gaaalccctn ggtctctgtt ccaggc 536

<210> 70
<211> 477
<212> DNA
<213> Homo sapien

<400> 70
atgaccctta acagggggcc totcagccct cctaataaac tccggccctag ccattgtgatt 60
tcacttccac tccataacgc tctcataact aggcctacta accaacacac taaccatata 120
ccaatgatgg cgcgatgtaa cagagaaaag cacataccaa ggcaccaca caccacctgt 180
ccaaaaaggc cttcgatacg ggataatcct atttattacc tcagaaagttt tttctctgc 240
agggattttt ctgagccttt taccactcca gcttagcccc taccocccaa ctaggagggc 300
actggccccc aacaggcctc acccgcctaa atccctctga agtcccactc ctaaacacat 360
ccgtattact cgcctcagga gtatcaalca cctgagctca ccctagtcta atagaaaca 420
uucgaancca aattattcaa agcactgctt attacaattt lactgggtct ctatttt 477

<210> 71
<211> 533
<212> DNA
<213> Homo sapien

<220>
<221> misc feature
<222> (1)...(533)
<223> n = A,T,C or G

<400> 71
agagctatag gtacagtgtg atctcagctt tgcaaacaca tttctacat agatagtact 60
aggatttaat agatattgtaa agaaagaaat cacaccatta ataattggtaa gatttggtta 120
tgtgacttta gtggtatttt tggcaccctt atatattgtt tccaaacttt cagcagtgal 180
attatttcca taacttaaaa agtgagtttg aaaaagaaaa tctccagcaa gcattctatt 240
taantaaag tttgtcatct llaaaaatac agcaatatgt gactttitaa aaaagctgic 300
aaatagggtg gacctacta ataatttcta gaalacatt taauaacctc gaatccctca 360
agtacgtttg ccttgaaaaa telcaaaal aactcttana gaattgtaca laaaagaaatg 420
cttcgttaatt ttggagtaag aggttccclc ctcaatttct latllttaa aagttacatgg 480
taaaaaaaaa aallcacaac agtatataag gctgtaaaaa qaagaattct gcc 533

<210> 72

<211> 511
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(511)
 <223> n = A,T,C or G

<400> 72
 tattacggga aaacacacca cattaattcaa ctancaaaga aacttgccttc agggcggtga 60
 aaatgaaggg ctccaggcca gttatctgat taagagacac caaaggaggg ecaaggctaa 120
 aagccgcagg atgtctacac tatancaggc gctatcttgg ctggctggag gagctgtgga 180
 aascattgga agattgggtc tgganacgc cgtggctatt cctcattgtt attacanagt 240
 gaggttctct gtgtgccac tggtttgaaa accgttctnc aataatgata gaatagtaca 300
 cacatgagaa ctgaaatggc ccasaccrag aaagaaagcc caactagatc ctcagaanac 360
 gcttctaggg acaataaccg atgaagaaa gatggcctcc ttgtgcccc gtctgttatg 420
 atttctctcc attgcagcna naaacccgtt cttctaagaa aacncagggt atgatggcna 480
 aaatacacc cctcttgag naccnggag a 511

<210> 73
 <211> 499
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(499)
 <223> n = A,T,C or G

<400> 73
 cagtggcagg actgggtgcc gtaccagtac caataacagt gccagtgcc gtgccagcac 60
 cagtgggtgg ttacagtgtg gtgccagcct gaccgcact ctacacattg ggctcttcgc 120
 tggccttggg ggagctgggt ccagcaccag tggcagctct ggtgctgtg gtttctccta 180
 caagtggat tttagatatt gttaatcttg ccagtcttc tcttcaagcc aggggtgcac 240
 ctcaaaaacc tactcaaac agcaactctag gcagccacta tcaatcaatt gaagttgaca 300
 ctctgcatta aatctatttg ccatttctga aaaaaaaaaa aaaaaaaggg cggccgctcg 360
 antctagagg gcccgttta acccgctgat cagcctcgac tgtgccttct anttggcagg 420
 catctgttgt ttgcccccc cccgntgect tcttgaccc tggaaagtgc cactcccact 480
 gtcutttctt aantaatat 499

<210> 74
 <211> 537
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(537)
 <223> n = A,T,C or G

<400> 74
 tttcatagga gaacacactg aggagatact tgaagaattt ggattcagcc gcgaagagat 60
 ttatcagctt auctcagata aactcattga aagtaataag gttaaagcta gtctctaact 120
 tccaggccca cggctcaagt gaatttgaat actgcattta cagtgtagag taacacataa 180
 cattgtatgc atggaaacat ggaggaaacag tattacagtg tccataccact ctaatcaaga 240
 aaagnaattac aqactctgat tclacagtga tgattgaatt ctaaaaatgg taatcattag 300
 ggcttttgat ttataaact lgggtactt atactaaatt atggtagtta tactgccttc 360
 cagtttgcti galataatlg ttgacttaa gatttttgau ttatatattg aatgggttct 420
 actgaaaann gaatgatata ttcttgaaga catoyalata cattcaltta cactcttgat 480
 tctacaaatg agaaaatgaa ggaaatgcc caaat:gtat ggtgataaaa gtcccggt 537

<210> 75
 <211> 467
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1}...{467}
 <223> n = A, T, C or G

<400> 75
 caaanacaaat tgttcnaaaag atgcaaatga tacactactg ctgcagctca caaacacctc 60
 tgcatactac acgtacctcc tcttgcctct caagtagtgt ggtctatctt gccatcatca 120
 cctgctgtct gcttagaaga acggctctct gctgcaangg agagaaatca taacagacgg 180
 tggcacaagg aggcacatctt ttcctcatcg gttattgtcc ctagaagcgt cttctgagga 240
 tctagtggg ctttctttct gggtttgggc catttcantt ctcatgtgtg tactattcta 300
 tcattattgt ataacggttt tcaaacnngt gggcaacnag agaacctcac tctgtaataa 360
 caatgaggaa tagccacggg gatctccagc accaatctc tccatgttnt tccagagctc 420
 ctccagccaa cccaaatagc cgtctctatn gtgtagaaca tccctgn 467

<210> 76
 <211> 400
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1}...{400}
 <223> n = A, T, C or G

<400> 76
 aagctgacag cattcggggc gagatgtctc gctccgtggc cttagctgtg ctccgctac 60
 tctctcttc tggcctggag gctatccagc gtactccaaa gattcagggt tactcacgtc 120
 atccagcaga gaattgaaag tcaaatctcc tgaattgcta tgtgtctggg ttctatccat 180
 ccgacattga agttgactta ctgaageatg gagagagaat tgaaaaagtg gagcattcag 240
 acctgtctct cagcaaggac tggctcttct atctcttgta ctacactgaa ttcccccaca 300
 ctgaaaaaga tgagtatgac tgcctgtgtg accatgtgac ttgtgtacag cccaaatnag 360
 tttagtgagg tccanacatg taagcagcan cctgggaggt 400

<210> 77
 <211> 248
 <212> DNA
 <213> Homo sapien

<400> 77
 ctggagtgcc ttggtgtttc aagccccctgc aggaagcaga atgcaccttc tgaggcacct 60
 ccagctgcco cggcggggga tgcgaggctc ggagcacctc tgcccggtg tgattgtgc 120
 caggcaactgt tcatctcagc tttctgtctc ctttgcctcc ggcaagcgtc tctgtgaaa 180
 gtccatatct ggagcctgat gtcttaacga ataaaggtcc catgctccac ccgaaaaaaa 240
 aaaaaaaa 248

<210> 78
 <211> 201
 <212> DNA
 <213> Homo sapien

<400> 78
 actagtccag tctggcggaa ttccattgtg ttgggcccc cacaatgggt accttttaaa 60
 tcccccagac cccgccttgc ccgtgcccc cgtctgtgct aacgacagta tgatgcttac 120
 tctgctactc ggaacctatc tttatgtaat taatgtatgc tttcttgttt ataaatgctt 180
 gatttcaaaa aaaaaaaaaa a 201

<210> 79
 <211> 552
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(552)
 <223> n = A,T,C or G

```

<400> 79
tccttttggg aggtttttga gacaacccta gacctaaact gtgtcacaga cttctgaatg      60
tttaggcagt gctagtaatt tcctcgtaat gattctgtta ttactttcct attctttat.t    120
cctctttctt ctgaagatta atgaagttga aaattgaggt ggataastac aaaaaggtag      180
tgtgatagta taagtatcta agtgcagatg aaagtgtgtt atatatatcc attcassaatt    240
atgcaagtta gtaattactc agggtttaact aaattacttt aatatgctgt tgaacctact      300
ctgttccttg gctagaaaaa attataaaca ggactttgtt agtttgggaa gccaaattga      360
taatatctta tgttctaata gttgggctat acataaanta tnaagaaata tgggaatttta    420
ttcccaggaa tatggggctc atttatgaat antaccgggg anagaagttt tgantnaaac      480
cngttttggg taatacgtta atatgtcctn aatnaacaag gontgactta ttccaaaaaa      540
aaaaaaaaaa aa                                         552
  
```

<210> 80
 <211> 476
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(476)
 <223> n = A,T,C or G

```

<400> 80
acaggggattt gagatgctaa ggcccagag atcgtttgat ccaaccctct tattttcaga      60
ggggaaaatg gggcctagaa gttacagagc atctagctgg tgcgctggca cccctggcct    120
cacacagact cccgagtagc tgggactaca ggcacacagt cactgaagca ggccctgttt      180
gcaattcacg ttgccacctc caacttaazc attcttcata tgtgatgtcc ttagtcaacta    240
aggttaaaact ttcccaccca gaaaaggcaa cttagatuaa atcttagagt actttcctac      300
tcttctaagc cctcttcuag cctcaatttg agtuctcctt ggggggttgat aggaantntc      360
tcttggttll ctcaataaaa tctctatcca tctcatgttt aatttgggtac gcntauaaat      420
gctgaaaaaa ttaaaatgtt ctggltt.cnc tllaaaaaaa aaaaaaaaaa aaauaaa      476
  
```

<210> 81
 <211> 232
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(232)
 <223> n = A,T,C or G

```

<400> 81
tttttttttg talgccttcn ctglcgnngt attgttgttg ccaaccctgga ggagcccagt      60
ttctttctga tctttcttll ctgqggggtc tctctggctc tgccctcca ttcccagcct    120
ctcatcccca tcttgcaatt ttgctagqgt lggagggcgt ttctgtgtag cccctcagag      180
actcagtcag aggggaataag tcttaggggt ggggggtgtg gcaagccggc ct          232
  
```

<210> 82
 <211> 383
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(383)
 <223> n = A, T, C or G

<400> B2
 aggggggagc agaagctaaa gccaaagccc aagaagagtg gcagtgccag cactggtgcc 60
 agtaccagta ccaataacat gccagtgccg gtgccagcac cagtgggtggc ttccagtgcg 120
 gtgccagcct gaccgccact ctccacatttg ggctcttcgc tggccttggg ggagctggg 180
 ccagcaccag tggcagctct ggtgcctgtg gtttctccta caagtggat tttagatatt 240
 gttaatcctg ccagtctttc tottcaagcc aggggtgcac ctccagaaacc tactcaaac 300
 agcactctng gcagccacta tcaatcaatt gaagttgaca ctctgcatta aatctatttg 360
 ccatttcaaa aaaaaaaaaa aaa 383

<210> B3
 <211> 494
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(494)
 <223> n = A, T, C or G

<400> B3
 accgaattgg gaccgctggc ttataagoga tcatgtcctc cagtattacc tcaacgagca 60
 gggagatcga gtctatacgc tgaagaaatt tgacccgatg ggacaacaga cctgctcagc 120
 ccctcctgct cggttctccc cagatgacaa atactctcga caccgaatca ccctcaagaa 180
 acgcttcaag gtgctcatga cccagcaacc gcgcctgtgc ctctgagggt ccttaaaactg 240
 atgtcttttc tgcacactgt taccctctgg agactccgtg accaaactct tcggactgtg 300
 agccctgatg ccttttttgc agccatactc lltggcctcc aglctctcgt ggccattgat 360
 tatgcttgtg tgaggcactc atggctggcat ccccatnnaa ggggaacacat ttgcntttt 420
 tttcncatat ttttaattac naccagaata nltcaqaata aalgaattga aaaaactcta 480
 aaaaaa aaaa 494

<210> B4
 <211> 380
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(380)
 <223> n = A, T, C or G

<400> B4
 gctggtagcc tatggcgtgg ccagggaagg gctcctgagg caccgggacag lgaactcccc 60
 agtatcctgc gccgcgtctt ctaccglncc tacctgcaga tcttcgggca gattccccag 120
 gaggacatgg acgtggccct catggagcac agcactgct cglcggagcc cggcltctgg 180
 gcacaccctc clggggccca ggagggcacc tgcgtctcnc agtatgccaa ctggcgggtg 240
 gtgctgclcc tgcctcattt cctgctcgtg gccaacatcc tgcctggtcc ltgctcattg 300
 ccattgttcag ttacacattc ggcaaagtac agggcaacag cnatctctac tgggaaggcc 360
 agcqltnccg cctcatccgg 380

<210> B5
 <211> 481
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature

<222> {1}...{481}

<223> n = A, T, C or G

<400> 85

gagtagctc	ctccacaacc	ttgatgaggt	cgtctgcagt	ggcctctcgc	ttcataccgc	60
tnccatcgtc	atactgtagg	tttgcaccca	cctcctgcac	cttggggcgg	ctaatatcca	120
ggaaactctc	aatcaagtc	cogtcatna	aacctgtggc	tggttctgtc	ttccgctcgg	180
tgtgaagga	tctccagaag	gagtgcotga	tcttccccc	acttttgatg	actttattga	240
gtcgattctg	catgtccagc	aggaggttgt	accagctctc	tgcagtgag	gtcaccagcc	300
ctatcatgcc	nttgaacgtg	ccgaagaaca	ccgagccttg	tgtggggggg	gnagtctcac	360
ccagattctg	cattaccaga	nagccgtggc	aaaaganatt	gacaactcgc	ccagggnngaa	420
aaagaacacc	tcctggaagt	gctngccgct	cctcgteent	tggtggnggc	gcntnccett	480
t						481

<210> 86

<211> 472

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}...{472}

<223> n = A, T, C or G

<400> 86

aacatcttcc	tgtataatgc	tgtgtaatat	cgatccgatn	ttgtctgctg	agaattcatt	60
acttggaaaa	gcaacttnaa	gcctggacac	tggtattaaa	attcacata	tgcacacatt	120
taaacagtgt	gtcaatctgc	tcctttaact	tgtcatcacc	agtctgggaa	taagggtatg	180
ccctattcac	acctgttaaa	agggcgctaa	gcatttttga	ttcaacatct	ttttttttga	240
cacaagtcgg	aaagaaagca	aagtaaacag	ttnttaactt	gttagccaat	tcactttctt	300
catgggacag	agccatttga	tttaaaaagc	aaactgcata	ataattgagct	ttggggagctg	360
atatnlgagc	ggaagantag	cctttctact	lcacccagaca	caactccttt	catattggga	420
tgttnacnaa	agllatgtct	cttaccagatg	ggatgcttct	gtggcaattc	tg	472

<210> 87

<211> 413

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}...{413}

<223> n = A, T, C or G

<400> 87

agaaaccagt	atctctnaaa	acaacctctc	ataccttgag	gacctcaattt	tgtgtgcgtg	60
tgtgtgtgcg	cgcataattat	atagacaggg	acalcttttt	tacttttgta	aaagcttatg	120
cctcttttgt	atctatatct	gtgaaaqttt	taattgatctg	ccataatgtc	ttggggacct	180
ttgtctctctg	tgtaaatggt	actagagaaa	acaccttatnt	tatgagtcac	tctagttngt	240
tttattcgac	atgaagggaa	llccagatn	acacacttne	caaactctcc	cttgactagg	300
ggggacaaag	aaagccanaa	ctgaacatne	gasacaattn	cctgggtgaga	aattncataa	360
acagaaaltg	ggtngtatat	lgaaanang	catcattnaa	acgttttttt	ttt	413

<210> 88

<211> 448

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}...{448}

<223> n = A, T, C or G

<400> BB

cgacgcgggt	cctctctatc	tagctccagc	ctctcgccgtg	ccccactccc	cgcgccccgc	60
gtccatagccn	accatggccg	ggccccgtgg	cgccccgctg	ctcctgctgg	ccatcctggc	120
cgtagccactg	gocgtgagcc	ccgoggccgg	ctccagtcoc	ggcaagccgc	cgcgccctggt	180
gggagggccca	tggaccccg	gtggaagaag	aaggtgtgog	gogtgcactg	gactttgocg	240
tggcnanta	caacaaaccc	gcaacnactt	ttacnagon	cgcgctgcag	gttgtgcgc	300
cccaancaa	ttgttactng	gggtaantaa	ttcttggaag	ttgaacctgg	gccaaacung	360
tttaccagaa	ccnagccaat	tngaacaatt	nccctccat	aacagccccct	tttaaaaggg	420
gaancantcc	tgnctctttc	caaatitt				480

<210> 89

<211> 463

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(463)

<223> n = A,T,C or G

<400> 89

gaattttgtg	caactggccac	tgtgatggaa	ccattgggcc	aggatgcttt	gagtttatca	60
gtagtgtatc	tgccaaagtt	ggtgttgtaa	catgagtatg	taaaatgtca	aaaaatttagc	120
agaggtctag	gtctgcatac	cagcagacag	tttgtccgtg	tattttgtag	ccttgaagtt	180
ctcagtgcac	agtttnttct	gatgcgaagt	cttnattcca	gtgttttagt	cctttgcac	240
tttnatgttn	agacttgcc	ctntnaaatt	gcttttgtnt	tctgcaggta	ctatctgttg	300
tttaacaaa	tagaannaat	tctctgcttn	gaanatttga	atatcttaca	tctnaaaatn	360
aattctctcc	ccatannaaa	acccangccc	ttggganaat	ttgaaaaang	gntccttcnn	420
aattcnnana	anttcagntn	tcataccaca	naacngganc	ccc		480

<210> 90

<211> 400

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(400)

<223> n = A,T,C or G

<400> 90

agggattgaa	ggtctntnt	actgtgggac	tgttcaccca	ccaactctac	aagttgctgt	60
cttccactca	ctgtctgtaa	gcntnttaac	ccagactgta	tcttcataaa	tagaaccasat	120
tcttcacccg	tcacatcttc	taggaccttt	ttggattcag	ttagtataag	ctcttccact	180
tcctttgtta	agactlcalc	tggtaaagtc	ttaggttttg	tagaaaggaa	tttaattgct	240
cgttctctaa	caatglectc	tcttgagagt	atttggttga	acaaaccacc	tneagtcctt	300
ttgtgcatec	attttaaata	tacttcaatg	ggcatlggtn	caataaggtla	aattctgcas	360
gagtcactcg	tctgcasaag	ttgcgtttagt	atctctgcca			400

<210> 91

<211> 480

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(480)

<223> n = A,T,C or G

<400> 91

gagctcggat	ccaaataatct	ttgtctgagg	gcagcacaca	tatncagtcg	catggnaact	60
------------	-------------	------------	------------	------------	------------	----

ggtctacccc	acatggggagc	agcatgccgt	agntatataa	ggtcattccc	tgagtcagac	120
atgcctcttt	gactaccgtg	tgccagtget	ggtgattctc	acacacctcc	nncgcctctt	180
tgtggaaaaa	ctggcacttg	netggaaata	gcaagacatc	acttaaaaa	tcacccacga	240
gacacttgaa	aggtgtaaca	aagcgactct	tgcatgtctt	tttgccctcc	cggcaccagt	300
tgtcaatact	aaccgcgtgg	tttgcttcca	tcacatttgt	gatctgtage	tcgggataca	360
tctcctgaca	gtactgaaga	acttcttctt	ttgtttcaaa	agcaactctt	ggtgcctgtt	420
ngatcagggt	cccatctccc	agtcogaatg	ttcacatggc	atatnttaact	ccccacaaaa	480

<210> 92
 <211> 477
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(477)
 <223> n = A,T,C or G

<400> 92						
atacagccca	natccrccca	cgaagatgcg	cttgttgact	gagaacctga	tgoggtcact	60
ggtcccgtcg	tagccccagc	gactctccac	ctgctggaag	cgggttgatgc	tgcaactcctt	120
cccacgcagg	cagcagcggg	gccgggtcaat	gaactccact	cgtggcttgg	ggttgacggg	180
taantgcagg	aagaggtctga	ccacctcgcg	gtccaccagg	atgcccgact	gtgoggggacc	240
tgacgcgaaa	ctcctcgatg	gtcatgagcg	ggaagcgaat	gangcccagg	gccttgccca	300
gaaccttccg	cctgttctct	ggcgtcacct	gcagctgctg	cgcctnacac	tcggcctcgg	360
accagcggac	aaaacggcgtt	gaccagccgc	acctcacgga	tgcccantgt	gtcgcgtctcc	420
aggaacggcn	ccagcgtgtc	caggtcantg	tcggtgaanc	ctccgcgggt	aattggcg	477

<210> 93
 <211> 377
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(377)
 <223> n = A,T,C or G

<400> 93						
gaacggctgg	accttgcttc	gcattgtgct	gctggcagga	ataccttggc	aaguagctcc	60
agtccgagca	gccccagacc	gctgcgcgcc	gaugctaagc	ctguutctgg	ccttcccctc	120
cgcctcaatg	caqaaccant	agtgggagca	ctgtgtttag	agllaaaggt	gaacactgtt	180
tgattttact	tggyaatte	ctctgttata	tagcttttcc	caatgctaat	ttccaaacaa	240
caacaaacaa	ataacatgtt	tgctgtttta	gttglataaa	aglanglqal	tciklatnta	300
aaqaaalal	tactgttaca	tatctgclt	gcaanittc	tatttatagg	tinctctgga	360
atcaatatat	tattaaa					377

<210> 94
 <211> 495
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(495)
 <223> n = A,T,C or G

<400> 94						
ccctttgagg	ggttagggtc	cagttccacg	tggaagaaac	aggcagggag	aantgcgtgc	60
cgagctgang	cagatttccc	acagtgaccc	cagagccctg	ggctctagtc	tctgacccct	120
ccaaggaag	accaccttct	gaggccatgg	gctggagggc	aggacctaga	ggcaccagag	180
gaaggcccca	ttccqgqgct	gttccccgag	gagggaaggga	aggggctctg	cttgcccccc	240

acgaggaana	ggccctgant	cctgggatca	nacacccctt	cacgtgtatc	cccacacaaa	300
tgcaagctca	ccaaggctcc	ctctcagtec	cttccctaca	ccctggaacg	ncactggccc	360
acacccaccc	agancancca	cccggccatg	ggaatgtnc	caagggaatc	cngggcaacg	420
tggactctng	lcccnnaagg	gggcagaatc	tccaatagan	gganngaacc	cttgctnana	480
aaaaaaaaa	aaaaa					495

<210> 95
 <211> 472
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc feature
 <222> (1)...(472)
 <223> n = A,T,C or G

ggttacttgg	tttcattgcc	accacttagt	ggatgtcatt	tagaaccatt	ttgtctgtct	60
cctctggaag	ccttgcgcag	agcggacttt	gtaattgttg	gagaataaact	gctgaatttt	120
tagctgtttt	gagttgatto	gcaccuactgc	accacaactc	aatctgaaa	ctatttnaact	180
tatttattat	cttgtagaaa	gtatacaatg	aaaattttgt	tcatactgta	tttatcaagt	240
atgatgaaaa	gcaatagata	tattctcttt	tattatggtt	aatatgatl	gccattatta	300
atcggaacaaa	tgtggagtgt	atgttctttt	cacagtaata	tatgccittt	gtaccltcaac	360
tlggttattt	tattgtaaal	gaattacaaa	attcttaatt	taagaaatg	glangttata	420
tttatttca	taattctctt	ccttgtttac	gttaattttg	aaaagaatgc	at	472

<210> 96
 <211> 476
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc feature
 <222> (1)...(476)
 <223> n = A,T,C or G

ctgaagcatt	tcttcacact	tnctactttt	tgtuattgal	acclgtagta	agttgacaat	60
gtggtgaaat	ttcaaaatla	tctgttaact	ctaclegktt	tactttctcc	ccccagttct	120
tttttaactcc	lgaiktttac	acacacacac	cagaacttat	tatatagcct	ctaagtcttt	180
atctttcaca	gtagatgata	aaagagtcct	ccagtgtctt	gngcanaatg	ttctagntat	240
agctggatag	atacngtggg	agttctataa	actcatacct	cagtgggact	naacccaaat	300
tgtgttagtc	tcaatttcta	ccacactgag	ggagcctccc	aaatcactat	attcttatct	360
gcaggtactc	ctccagaaaa	acngacaggg	caggcttgca	tgaaaaagtn	acatctgcgt	420
tacaaagtct	atcttctcca	nangtctgtt	aaggacaat	ttaatcttct	agcttc	476

<210> 97
 <211> 479
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc feature
 <222> (1)...(479)
 <223> n = A,T,C or G

actttttcta	atgctgatai	gatcttgagt	ataaqaatgc	atatgtcact	agaatggata	60
aaaleaatgct	gcaaaactta	tgttctttat	caaatggaa	cgctaattgaa	acacagctta	120
caatcgcaaa	tcaaaactca	caagtcttca	tctgtttag	atttagtgta	ataagactta	180
galgtgtctc	cttcggatat	gattgtttct	canatcttgg	gcaatnttcc	ttagtcaaat	240
caggctacta	gaattctgtt	attggatatn	tgagagcatg	aaatttttaa	naatacaact	300

gtgattatna	aattaatcac	aaattttcact	tataacctgct	atcagcagct	agaaaaacat	360
ntntttttta	natcaaagta	ttttgtgttt	ggaantgttn	aaatgaaatc	tgaatgtggg	420
ttenatctta	ttttttcccn	gacnactant	tnctttttta	gggnctcttc	tganccatc	479

<210> 98
 <211> 461
 <212> DNA
 <213> Homo sapien

<400> 98						
agtgaattgt	cctccaacaa	aacccttga	tcaagtttgt	ggcactgaca	atcagaccta	60
tgetagtacc	tgtcatctat	tgcctactaa	atgcagactg	gagggggacca	aaaaggggca	120
tcaactccag	ctggattatt	ttggagcctg	caaactctatt	cctacttgta	cggactttga	180
agtgaattcag	tttctctctac	ggatgagaga	ctggctcaag	aatatcctca	tgcagcttta	240
tgaagccact	ctgaacaagc	tggttatcta	gatgagaaca	gagaaataaa	gtcagaaat	300
ttacctggag	aaaagaggct	ttggtctggg	accatcccat	tgaaccttct	cttaaggact	360
ttaagaaaaa	ctaccacatg	ttgtgtatcc	tgggtccggc	cgtttatgaa	ctgaccaccc	420
tttgyaataa	tcttgacgct	cctgaacttg	ctcctctggc	a		461

<210> 99
 <211> 171
 <212> DNA
 <213> Homo sapien

<400> 99						
gtggcngggc	gcagggtgttt	cctcgtaacg	cagggccccc	tcccttcccc	aggcgteccct	60
cgggcgcctct	gcggggcccg	ggaggagcgg	ctggcgggtg	gggggagtg	gaccacccct	120
cgggtgagaaa	agccttctct	agcgatctga	gaggcgtgoc	ttgggggtac	c	171

<210> 100
 <211> 269
 <212> DNA
 <213> Homo sapien

<400> 100						
cgggcggcaag	tgaactcua	qutggggccg	tggggccgaa	gattctgcca	gcagttggtc	60
cgaactgcyac	gagggcgccg	qcgacagtcg	caggtgcagc	gcgggcgcct	ggggctcttg	120
aaggctgggc	tgaacgngca	gaggctcgtg	caggtccccc	gaccttgacg	ccgtcgggga	180
cagccgggac	agagcccggt	gagcggggag	gcctcgggga	gccccctggg	aaggggcgcc	240
cagagagctac	gcaggtgcag	gtggccgccc				269

<210> 101
 <211> 405
 <212> DNA
 <213> Homo sapien

<400> 101						
tttttttttt	ttttggaatc	tactgcgagc	acagcaggtc	agcaacaaqt	ttatttttga	60
gctagcaagg	taacagggtg	gggcatgggt	acatgttcag	gtcaacttcc	tttctcgtgg	120
ttgattgggt	tgtttttatg	ggggcggggt	ggggcagggg	aaacggaqca	aataacclgg	180
agtgggtgca	ccclccctgt	agaaacclgg	tacaaagclt	ggggcagttc	acclggctctg	240
tgaccgloat	tttcttgaca	lcaalqltat	tagaagtcag	gatctctltt	agagagtcas	300
ctgtttctgg	ggggagattag	gggtttcttgc	caaactccaa	aaaatccact	gaaaaagttg	360
galqatcagt	acgaataccg	aggcatattc	tcatactcgt	ggcca		405

<210> 102
 <211> 470
 <212> DNA
 <213> Homo sapien

<400> 102						
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	60

34

ggcacttaat	ccatttttat	ttcaaaatgt	ctaccaattt	aateccatta	tacgggtattt	120
tcaaaatota	aatttattcaa	attaguccaa	lcccttaccas	ataatatcccc	aaaatcaaaa	180
atatacttct	ttcagcaaac	ttgttacata	aetttaaaaa	atatafacgg	ctgggtgtttt	240
caaagtaaaa	ttatcttaac	autgcacaaa	ttttaaaggaa	ctaaaataaa	aaaaaacact	300
cggcaaaagt	taaaagggaa	aaacaattct	tttacaacac	cattataaaa	atcatatctc	360
aaatcttagg	ggaatatata	cttcaacagg	gatcttaact	tttaactaact	ttgtttattt	420
ttttaaacca	ttgttttggc	ccacacacac	ggaalccccc	ctggactagt		470

<210> 103
 <211> 581
 <212> DNA
 <213> Homo sapien

<400> 103						
tttttttttt	ttttttttga	ccccctcttt	ataaaaaaca	agttaccatt	ttatttttact	60
tacacatatt	tatttttata	ttggtatttag	atattcaaaa	ggcagctttt	aaaatcaaac	120
taaatggaaa	ctgcctcaga	tacataattc	ttaggaaata	gcttaaaatc	tgcctaaagt	180
gaaaatcttc	tctagctctt	ttgactgtaa	atttttgact	cttgtaaaac	atccaaatto	240
attttctctg	tctttaaaaa	tatctaattc	ttccattttt	ttccctattcc	aagtcacatt	300
gcttctctag	cctcatcttc	tagctcttat	ctactattag	taagtggctt	tttloctaaa	360
agggaacaca	ggaagagaaa	tggcacacaa	aacaaacatt	ttatattcat	atttctacct	420
acgttaataa	aatagcattt	tgtgaagcca	gctcaaaaga	aggcttagat	ccttllalct	480
ccatttttagt	cactaaaaga	tatcaaatgt	ccagatgtca	aaagglllgt	gaacatttat	540
tcaaaagcta	atataagata	tttcacatac	tcctctllct	q		581

<210> 104
 <211> 578
 <212> DNA
 <213> Homo sapien

<400> 104						
tttttttttt	tttttttttt	tttttctctt	cttttttttt	gaautgagga	togaqttttt	60
cactctctag	atagggcctg	aagaaaactc	atctttccag	ctttaaaata	acaatcaaat	120
ctcttatgct	atatcatatt	ttaagttaaa	ctaatgagtc	actggcttat	cttclcltga	180
aggaaatctg	ttcattcttc	tcatttcatat	agttatatca	agtaclaccc	tgcatattga	240
gagggttttt	ttctctatit	acacatatat	ttccatgltg	altlqlatca	accctttatt	300
ttcatgcaaa	ctagaaaaata	atgtttcttt	tgcataagag	aagagaacaa	tatagcatta	360
caaaactgct	caaatgtgtt	gttaagttat	ccattataat	lagttggcag	gagctaatac	420
aaatcacatt	tccgacagca	ataataaaa	lgaagfacca	gttaaatatc	caaaataatt	480
aaaggaaacat	ttttagcctg	gglataakta	gntaattcac	tttacaagca	tttattagaa	540
tgaattcaca	tgttattatt	cctagcccaa	cacaatgg			578

<210> 105
 <211> 538
 <212> DNA
 <213> Homo sapien

<400> 105						
tttttttttt	tttttcagta	ataatcagaa	caatatittat	tttlatatbt	aaaattcata	60
gaaaagtgcc	ttacatttaa	taaaagtitt	tttctcaaaq	tgatcagagg	aattagatat	120
gtcttgaaac	ccaatattaa	tttgaggaaa	atcacacaaa	alacalttaq	tcaattattt	180
aagatcatag	agcttgtaag	tgaaaagata	aaalltgacc	tcagaacctc	tqagcattaa	240
aaatccacta	ttagcaaaata	aattactatg	gatttcttgc	tttaattttg	tgatgaatat	300
gggggtgtcac	tggtaaacca	acacattctg	aaggatacat	tacttagtga	tagattctta	360
tgtacttttg	taatacgtgg	atatgagttg	acaagcttct	ctttcttcaa	tcttttaagg	420
ggcgagaaat	gaggaaagaa	agaaaaggat	lccgcatact	gttctttcta	tgggaaggatt	480
agatatgttt	cctttgccaa	tatttaaaaa	ataatcatgt	ttactactag	tgaacccc	538

<210> 106
 <211> 473
 <212> DNA
 <213> Homo sapien

<400> 106
 tttttttttt ttttttagtc aagtttttat tttttattata attaaagtct tgggtcatttc 60
 attttattagc tctgcaactt acattatttaa attaaagaaa cgttttagac aactgtacaa 120
 tttataaatg taagggtgcca ttatttgagta atatatctct ccaagagtgg atgtgtccct 180
 tctccaccac actaatgaac agcaacatta gtttaatttt attagtagat ataccctgtc 240
 gcaaacgcta attctcttct ccctcccat gtgatattgt gtatatgtgt gaggtagtag 300
 aatgcatac aatctacat caacagcag atgaaagtat gctgggtttt cgggtgaatt 360
 agactgtgtc tglctgaatc aaatgtctg acctatctc ggtggcagca actcttcgaa 420
 ccgcttctctc aaaggcgctg ccacacttgt ggtcttttgc acttgcttca aaa 473

<210> 107
 <211> 1621
 <212> DNA
 <213> Homo sapien

<400> 107
 cggcatggca ctgcagggca tctcggtcat ggagctgtcc ggcctggccc cggggccggtt 60
 ctgtgttatg gtcctggctg acttcggggc gctgtgtgta cgcgtggacc ggcccggtc 120
 ccgctacgac gtgagccgct tgggcccggg caagcgtctg ctagtgttg accgtgaagca 180
 gccgcgggga gccgcggtgc tgcggcgtct gtgcaagcgg tcggtgtgac tgcgtggagcc 240
 ctcccgccgc ggtgtcatgg agaaactcca gctgggcccga gagattctgc agcgggaaaa 300
 tccaaggctt atttatgcca ggctgagtgg atttggccag tcagggaagct tctgccggtt 360
 agctggccac gatatacaact atttggcttt gtcagggttt ctctcaaaaa ttggcagaag 420
 tgggtgagaat ccgtatgccc cgtgaatct cctggctgac tttgctggtg gtggccttat 480
 gtgtgcactg ggcattataa tggctctttt tgaccgcaca cgcactgaca aggtgtcaggt 540
 cattgatgca aatattggtg agggacagc atatttaagt tcttttctgt ggaataactca 600
 gaaatcgagt ctgtgggaag caccctcgagg acagaacatg ttgggtgglg gaacaccttt 660
 ctatacgact taagggacag cagatgggga atttctggcl qltggagcag tagaacccca 720
 gttclacgag ctgtgtgatc agggacttgg actaaagctc gatgaacttc ccaatcagat 780
 gagcatggat gattggccag aaatgaagaa gaagtattga gatgtatttg caaagaagac 840
 gaaggcagag tgggtgtcaaa tctttgacgg cacagatgcc tgtgtgaactc cgggttctgac 900
 ttttgaggag gttgttcac atgatcacia caaggaaagg ggtcgttta tcaccagtga 960
 ggagcaggag gtgagccccc gccctgcacc tctgctgcta aacaccccag ccatcccttc 1020
 tttcaaaaag gatcccttca taggagaaca caactgaggag ataactgaag aatttggatt 1080
 cagcccgcaa gagatttatc agcttaactc agataaaatc attgaaagta ataaggtaaa 1140
 agctagtctc taacttccag gccacgggt tatgcatgga aacatggagg aacagtatta cagtgtccta 1200
 tagagtaaca cataacattg attacagact ctgattctac agtgatgatt gnatcclaaa 1260
 ccactctant caagaaaaga attagggctt ttgatttata aaactttggg tactttactt aaatttatgt 1320
 aatggttatc ccttccagtt tgcttgatat atttggtagl attaaagctc ctgacttata 1380
 agttattctg ttttgaatgg gttctagtga aanaggaatg atatatctct gaagacatcg alctacattt 1440
 ttttgcactc ttgattctac aatgtagaaa atgaggaaat gccacaaatt gtatgggtgat 1500
 aaaaagtcacg tgaacacaaa aaaaaaaatt aaaaaaaatt aaaaaaaatt aaaaaaaatt 1560
 a 1621

<210> 108
 <211> 382
 <212> PRT
 <213> Homo sapien

<400> 108
 Met Ala Leu Gln Gly Ile Ser Val Met Glu Leu Ser Gly Leu Ala Pro
 1 5 10 15
 Gly Pro Phe Cys Ala Met Val Leu Ala Asp Phe Gly Ala Arg Val Val
 20 25 30
 Arg Val Asp Arg Pro Gly Ser Arg Tyr Asp Val Ser Arg Leu Gly Arg
 35 40 45
 Gly Lys Arg Ser Leu Val Leu Asp Leu Lys Gln Pro Arg Gly Ala Ala
 50 55 60
 Val Leu Arg Arg Leu Cys Lys Arg Ser Asp Val Leu Leu Glu Pro Phe
 65 70 75 80

Arg Arg Gly Val Met Glu Lys Leu Gln Leu Gly Pro Glu Ile Leu Gln
 85 90 95
 Arg Glu Asn Pro Arg Leu Ile Tyr Ala Arg Leu Ser Gly Phe Gly Gln
 100 105 110
 Ser Gly Ser Phe Cys Arg Leu Ala Gly His Asp Ile Asn Tyr Leu Ala
 115 120 125
 Leu Ser Gly Val Leu Ser Lys Ile Gly Arg Ser Gly Glu Asn Pro Tyr
 130 135 140
 Ala Pro Leu Asn Leu Leu Ala Asp Phe Ala Gly Gly Gly Leu Met Cys
 145 150 155 160
 Ala Leu Gly Ile Ile Met Ala Leu Phe Asp Arg Thr Arg Thr Asp Lys
 165 170 175
 Gly Gln Val Ile Asp Ala Asn Met Val Glu Gly Thr Ala Tyr Leu Ser
 180 185 190
 Ser Phe Leu Trp Lys Thr Gln Lys Ser Ser Leu Trp Gly Ala Pro Arg
 195 200 205
 Gly Gln Asn Met Leu Asp Gly Gly Ala Pro Phe Tyr Thr Thr Tyr Arg
 210 215 220
 Thr Ala Asp Gly Glu Phe Met Ala Val Gly Ala Ile Glu Pro Gln Phe
 225 230 235 240
 Tyr Glu Leu Leu Ile Lys Gly Leu Gly Leu Lys Ser Asp Glu Leu Pro
 245 250 255
 Asn Gln Met Ser Met Asp Asp Trp Pro Glu Met Lys Lys Lys Phe Ala
 260 265 270
 Asp Val Phe Ala Lys Lys Thr Lys Ala Glu Trp Cys Gln Ile Phe Asp
 275 280 285
 Gly Thr Asp Ala Cys Val Thr Pro Val Leu Thr Phe Glu Glu Val Val
 290 295 300
 His His Asp His Asn Lys Glu Arg Gly Ser Phe Ile Thr Ser Glu Glu
 305 310 315 320
 Gln Asp Val Ser Pro Arg Pro Ala Pro Leu Leu Leu Asn Thr Pro Ala
 325 330 335
 Ile Pro Ser Phe Lys Arg Asp Pro Phe Ile Gly Glu His Thr Glu Glu
 340 345 350
 Ile Leu Glu Glu Phe Gly Phe Ser Arg Glu Glu Ile Tyr Gln Leu Asn
 355 360 365
 Ser Asp Lys Ile Ile Glu Ser Asn Lys Val Lys Ala Ser Leu
 370 375 380

<210> 109

<211> 1524

<212> DNA

<213> Homo sapien

<400> 109

ggcgcgaggg	tgccgcaggg	cctgagcgga	ggcgggggga	gcctcgccag	cgaggggcrrc	60
gggcctggcc	atgcctcact	gagccagcgc	ctgcgcctct	acctcgccga	cagctgggac	120
cagtgcganc	tagtggtctt	caactgtctt	ctcctggggg	tgggctgccc	gctgaccccg	180
ggtttgtacc	acctgggccc	cactgtcttc	tgcctcgact	tcatgggttt	cagggtgcgg	240
ctgcttcaca	tcttcaacgt	caacaaacag	ctggggccca	agatcgctcat	cgtgagcaag	300
atgatgaagg	acgtgttctt	cttctctctt	ttcctcgggc	tgtggtctgt	agcctatggc	360
gtggccacgg	aggggctcct	gaggccacgg	gacagtgaat	tcccaagtat	cctgcgcggc	420
gtcttctacc	gtccctacct	gcagatcttc	gggcagattc	cccaggagga	catggacgtg	480
gccctcatgg	agcacagcaa	ctgctcgctc	gagcccggct	tctgggcaca	ccctcctggg	540
gcccaggcgg	gcacctgcgt	ctcccagtat	gccaaactgg	tgggtggtgt	gtcctctgtc	600
atcttctcgc	tccgtggcca	catcctgctg	gtcaacttgc	tcattgccat	gttcagttac	660
acattcggca	aagtacaggg	caacagcgat	ctctactgga	aggcgcagcg	ttaccgcttc	720
atccgggaat	tccactctcg	gcccgcgctg	gcccgcacct	ttatcgtcat	ctcccacttg	780
cgccctcctg	tcaggcaatt	gtgcaggcga	ccccggagcc	cccagccgtc	ctcccgggcc	840
ctcgagcatt	tcggggttta	cctttctaa	gaagccgagc	ggaagctgt	aaagtgggaa	900
tgggtgcata	aggagaactt	tctgctggca	cgcgttaggg	acaagcggga	gagcgactcc	960
gagcgtctga	agcgcaagtc	ccaggaagtg	gacttggcac	tgaacacagt	gggacacatc	1020

cgcgagtagc	aacagcgcc	gaaggtgctg	gaagcgagg	tccagcagt	tagccgcgtc	1080
ctgggggtgg	tggcggaggc	ccgagccgc	tctgccltgc	tgccccagg	tgggcgcca	1140
ccccctgacc	tgcctgggtc	caagagactg	gcctgtctgg	cgacttcaa	ggagagccc	1200
ccacagggga	ttttgctcct	agagtgaagg	tcatctgggc	ctcgccccc	gcacctgggtg	1260
gccttgctct	tgaagtgagc	cccatgacca	tctgggcccac	tgtcaggacc	acctttggga	1320
gtgtcatcct	tacccaccac	agcatgccc	gctcctccc	gaaccagtcc	cagcctggga	1380
ggatcaaggc	ctggatcccc	ggccgtttatc	catctggagg	ctgcagggtc	ctlggggtaa	1440
cagggaccac	agacccolca	ccactcacag	attcctccca	ctgggggaat	aaagccattt	1500
cagagggaaa	aaaaaaasaa	aaaa				1524

<210> 110
 <211> 3410
 <212> DNA
 <213> Homo sapien

gggaaccagc	ctgcaacgc	tggtccggg	tgaacagcc	gcgcctcggc	caggatctga	60
gtgatgagac	gtgtccccac	tgaggtgccc	cacagcagca	ggtgttgagc	atgggtcgag	120
aagctggacc	ggcaccaaa	ggctggcaga	aatggcgccc	tggtgatcc	ctaggcagtt	180
ggcggcagca	aggaggagag	gcgcagctt	ctggagcaga	gcagagacga	agcagttctg	240
gagtgccctga	acggccccct	gagccctacc	cgccctggccc	actatggctc	agaggctgtg	300
ggtgagccgc	ctgctgcggc	acgggaaagc	ccagctcttg	ctggtcaacc	tgttaacctt	360
tggcctggag	gtgtgttttg	ccgcaggcat	cccttatgtg	ccgcctctgc	tgttgaagt	420
gggggtagag	gagaggttca	tgaccatggt	gctgggcatt	ggtccagtgc	tggccctggt	480
ctgtgtcccc	ctccataggct	cagccagtga	ccactggcgt	ggacgtctatg	ggcgccggcg	540
gccccttcatc	tgggcactgt	ccctgggcct	ctgtcggcgt	ctctttctca	tcccaggggc	600
cggtctggcta	gcagggctgc	tgtgcccggg	lcccagggccc	ctggagctgg	ccctgclcal	660
cctggggctg	gggtctgctg	acclclclg	ccaggtgtgc	lclccctccac	tggagacct	720
gctclclgac	clclclccgg	acccggacc	ctgtcccgag	gcctacclclg	ctctatgact	780
catgatcagt	cttgggggct	gcctgggcta	cctcctgcct	gccattgact	gggacaccag	840
tgccttggcc	ccctaacctg	gcacccagg	ggagtgcctc	tttggcctgc	tcacctcat	900
cttccctcac	tgcgtagcag	ccacactgct	ggtggctgag	gaggcagcgc	tgggccccac	960
cgagccagca	gaagggtctg	cgccccctc	cttgtcggcc	ccctgctgtc	catgcccggc	1020
ccgcttggct	ttccgggaac	tggggccct	gcttcccgg	ctgcaccagc	tgtgtgcctg	1080
catgccccgc	acccctgcgc	ggctcttctg	ggctgagctg	tgcagctgga	tggcactgga	1140
gaccttcaag	ctgttttaca	cggtttctgt	ggcgagggg	ctgtaccagg	gcgtgcccag	1200
agctgagccg	ggcaccgagg	cccgagagca	ctatgatgaa	ggcgttcgga	tgggcagcct	1260
ggggctgttc	ctgcagtgcg	ccctctccct	ggtcttctct	ctggtcatgg	acccgctggt	1320
gcagcgatcc	ggcactugag	cggtctatll	ggcagtytg	gcagctttcc	ctgtgclgc	1380
cggtgucaca	tycclgtccc	acagclgagc	cggtgtgacc	gcttccagccg	ccctcccccg	1440
gttccaccttc	tcagccctgc	agatccctgc	clacacactg	gcctccclct	accccccggg	1500
gaagcaggtg	ttcctgcccc	aataccgagg	ggacacttga	ggtgctagca	gtgaggaacg	1560
cctgatgacc	agcttctctg	caggccctaa	gcctggagct	ccctcccta	atggacactg	1620
gggtgctgga	ggcagtggcc	tgtccracc	tcaccccgcg	ctctgcccgg	cctctgcctg	1680
lgatgtctcc	gtacgtgtgg	tgggtgggtg	gccacccag	gccagggtgg	ttccgggccc	1740
gggcactctgc	ctggacctcg	ccatccctga	tagtgccttc	ctgctgtccc	aggtggcccc	1800
ctccctgttt	atgggctcca	ttgtccagct	cagccagctc	gtcactgcct	atatggtgtc	1860
tgcgcgaggc	ctgggtctgg	tcggccattt	ctttgctaca	caggtagtat	ttgacaagag	1920
cgacttggcc	aaatactcag	cgtagaaaac	ttccagcaca	ttgggggtgga	gggctgct	1980
cactgggtcc	cagctccccg	ctcctgttag	ccccatgggg	ctgcccggct	ggccgcaggt	2040
ttctgttctg	gcccaggtaa	tgtggtcttc	tgtgcaccc	ctgtgctgct	gaggtgcgta	2100
gotgcaacgc	tgggggtgg	ggcgtccctc	tctctctctc	ccagtctcta	gggtgctctg	2160
actggaggcc	ttccaggggg	gtttcagctc	ggacttatcc	agggaggcca	gaagggtccc	2220
atgcactgga	atgcggggac	tctgcaggtg	gattaccacg	gctcaggggt	aacagctagc	2280
ctcctagtgt	agacacacct	agagaaggg	ttttgggagc	tgnataact	cagtcacctg	2340
gtttcccatc	tctaagcccc	ttaaccttga	gcttcgttta	atgtagctct	tgcagggag	2400
tttctaggat	gaacacactc	tcuatygcat	ltgaucatat	gacttalctg	taggggaaga	2460
gtcctgaggg	gaaacacaca	agaaacaggt	ccctccagcc	vacagcactg	cttttttctg	2520
gatccacccc	ccclclacct	lltatcagga	lgtggcctgt	lgttclctct	gttgcaccca	2580
cagagacaca	ggcattttaa	tctttaactt	atttatllaa	caaagttagaa	gggaatccat	2640
tgtatgcttt	tctgtgtlgt	tgtctaatat	tlgggtaggg	tgggggatcc	ccacaactca	2700
ggtuuccctga	gatagctggt	cattgggctg	atcattgcca	gaatcttctt	ctcctggggt	2760

```
<210> 111
<211> 1289
<212> DNA
<213> Homo sapien
```

<400> 111

agccaggcgt	ccctctgoot	gccactcag	tggcaacaco	cgggagctgt	tttgtccttt	60
gtggagcctc	agcagttccc	tctttcagaa	ctcaactgca	agagccctga	acaggagacw	120
ccatgcagtg	cttcagcttc	attaagacca	tgatgatctc	cttcaatttg	ctcatctltc	180
tgtgtggtgc	agccctgttg	gcagtgggca	tctgggtgtc	aatcgatggg	gcattccttc	240
tgaagatctt	cgggccactg	tgtctcagtg	ccatgcagtt	tgtcaacgtg	ggolacllcc	300
tcatcgcagc	cgggctttgt	tgtcttgctc	tttgtttctc	gggtlgtctc	ggllcgttaaga	360
ctgagagcaa	gtgtgccttc	gtgacgtttc	tuttcactcc	ccclccatc	ttcattgtctg	420
aggttgacgc	tgtgtgtgtc	gccttggtgt	acaccacact	ggctgagcac	ttcctgacgt	480
tgtcgttagt	gcctgcacac	aagaaagact	atggttccc	ggaagacttc	actcaagtgt	540
ggaagacac	catgaaygg	ctcaagtgtc	tgggttcac	caactatacg	gattttgagg	600
actcacccta	cttcaaaag	aacagtgctc	tcccctatt	ctgttgcaat	gacaaactga	660
ccacacacgc	naalgaaac	tgcaccaaag	aaaagggtca	cgaccaaaaa	tgagggggtt	720
gottcaactca	gcttttgtat	gacatccgaa	ctaattgcagt	caccgtgggt	ggtgtggcag	780
clggcaattgg	gggcctcgag	ctggctgcca	tgatttgttc	catgtatctg	tactgcaatc	840
tacataaagt	ccactctcgc	ctctgcactc	actgtgcaca	catgggaact	gtgaagaggc	900
accctggcaa	gcagcagtg	tgggggagg	ggacaggtac	taacantgtc	acttgggcca	960
gaatggacct	gcccctttctg	ctccagactt	ggggctagat	agggaccact	ctttttagcg	1020
atgcctgact	ttccttccat	tgggtgggtg	atgggtgggg	ggcatlccag	agcctctaaag	1080
gtagccagtt	ctgttgccca	ttcccccagt	ctattaaacc	cttgatctgc	ccoclaggcc	1140
tagtggtagt	cccagtgctc	tactggggga	tgaagagaaag	gcattttata	gcctgggcct	1200
aagtgaatc	agcagagcct	ctgggtggat	gtgtagaagg	cacttcaaaa	tgcatazaac	1260
tgttacaatg	ttaaaaaaa	aaaaaaa				1289

```
<210> 112
<211> 315
<212> PRT
<213> Homo sapien
```

<400> 112

Met	Val	Phe	Thr	Val	Arg	Leu	Leu	His	Ile	Phe	Thr	Val	Asn	Lys	Gln
1				5					10					15	
Leu	Gly	Pro	Lys	Ile	Val	Ile	Val	Ser	Lys	Met	Met	Lys	Asp	Val	Phe
			20					25					30		
Phe	Phe	Leu	Phe	Phe	Leu	Gly	Val	Trp	Leu	Val	Ala	Tyr	Gly	Val	Ala
		35				40						45			
Thr	Glu	Gly	Leu	Leu	Arg	Pro	Arg	Asp	Ser	Asp	Phe	Pro	Ser	Ile	Leu
	50				55						60				
Arg	Arg	Val	Phe	Tyr	Arg	Pro	Tyr	Leu	Gln	Ile	Phe	Gly	Gln	Ile	Pro
65				70					75					80	
Gln	Glu	Asp	Met	Asp	Val	Ala	Leu	Met	Glu	His	Ser	Asn	Cys	Ser	Ser
			85					90					95		
Glu	Pro	Gly	Phe	Trp	Ala	His	Pro	Pro	Gly	Ala	Gln	Ala	Gly	Thr	Cys
			100					105					110		
Val	Ser	Gln	Tyr	Ala	Asn	Trp	Leu	Val	Val	Leu	Leu	Leu	Val	Ile	Phe

115	120	125
Leu Leu Val Ala Asn Ile	Leu Leu Val Asn Leu	Leu Ile Ala Met Phe
130	135	140
Ser Tyr Thr Phe Gly Lys	Val Gln Gly Asn Ser	Asp Leu Tyr Trp Lys
145	150	155
Ala Gln Arg Tyr Arg Leu	Ile Arg Glu Phe His	Ser Arg Pro Ala Leu
165	170	175
Ala Pro Pro Phe Ile Val	Ile Ser His Leu Arg	Leu Leu Leu Arg Gln
180	185	190
Leu Cys Arg Arg Pro Arg	Ser Pro Gln Pro Ser	Ser Pro Ala Leu Glu
195	200	205
His Phe Arg Val Tyr Leu	Ser Lys Glu Ala Glu	Arg Lys Leu Leu Thr
210	215	220
Trp Glu Ser Val His Lys	Glu Asn Phe Leu Leu	Ala Arg Ala Arg Asp
225	230	235
Lys Arg Glu Ser Asp Ser	Glu Arg Leu Lys Arg	Thr Ser Gln Lys Val
245	250	255
Asp Leu Ala Leu Lys Gln	Leu Gly His Ile Arg	Glu Tyr Glu Gln Arg
260	265	270
Leu Lys Val Leu Glu Arg	Glu Val Gln Gln Cys	Ser Arg Val Leu Gly
275	280	285
Trp Val Ala Glu Ala Leu	Ser Arg Ser Ala Leu	Leu Pro Pro Gly Gly
290	295	300
Pro Pro Pro Pro Asp Leu	Pro Gly Ser Lys Asp	315
305	310	

<210> 113
 <211> 553
 <212> PRT
 <213> Homo sapien

<400> 113
Met Val Gln Arg Leu Trp Val Ser Arg Leu Leu Arg His Arg Lys Ala
1 5 10 15
Gln Leu Leu Leu Val Asn Leu Leu Thr Phe Gly Leu Glu Val Cys Leu
20 25 30
Ala Ala Gly Ile Thr Tyr Val Pro Pro Leu Leu Leu Glu Val Gly Val
35 40 45
Glu Glu Lys Phe Met Thr Met Val Leu Gly Ile Gly Pro Val Leu Gly
50 55 60
Leu Val Cys Val Pro Leu Leu Gly Ser Ala Ser Asp His Trp Arg Gly
65 70 75 80
Arg Tyr Gly Arg Arg Arg Pro Phe Ile Trp Ala Leu Ser Leu Gly Ile
85 90 95
Leu Leu Ser Leu Phe Leu Ile Pro Arg Ala Gly Trp Leu Ala Gly Leu
100 105 110
Leu Cys Pro Asp Pro Arg Pro Leu Glu Leu Ala Leu Leu Ile Leu Gly
115 120 125
Val Gly Leu Leu Asp Phe Cys Gly Gln Val Cys Phe Thr Pro Leu Glu
130 135 140
Ala Leu Leu Ser Asp Leu Phe Arg Asp Pro Asp His Cys Arg Gln Ala
145 150 155 160
Tyr Ser Val Tyr Ala Phe Met Ile Ser Leu Gly Gly Cys Leu Gly Tyr
165 170 175
Leu Leu Pro Ala Ile Asp Trp Asp Thr Ser Ala Leu Ala Pro Tyr Leu
180 185 190
Gly Thr Gln Glu Glu Cys Leu Phe Gly Leu Leu Thr Leu Ile Phe Leu
195 200 205
Thr Cys Val Ala Ala Thr Leu Leu Val Ala Glu Glu Ala Ala Leu Gly
210 215 220
Pro Thr Glu Pro Ala Glu Gly Leu Ser Ala Pro Ser Leu Ser Pro His
225 230 235 240

Cys Cys Pro Cys Arg Ala Arg Leu Ala Phe Arg Asn Leu Gly Ala Leu
 245 250 255
 Leu Pro Arg Leu His Gln Leu Cys Cys Arg Met Pro Arg Thr Leu Arg
 260 265 270
 Arg Leu Phe Val Ala Glu Leu Cys Ser Trp Met Ala Leu Met Thr Phe
 275 280 285
 Thr Leu Phe Tyr Thr Asp Phe Val Gly Glu Gly Leu Tyr Gln Gly Val
 290 295 300
 Pro Arg Ala Glu Pro Gly Thr Glu Ala Arg Arg His Tyr Asp Glu Gly
 305 310 315 320
 Val Arg Met Gly Ser Leu Gly Leu Phe Leu Gln Cys Ala Ile Ser Leu
 325 330 335
 Val Phe Ser Leu Val Met Asp Arg Leu Val Gln Arg Phe Gly Thr Arg
 340 345 350
 Ala Val Tyr Leu Ala Ser Val Ala Ala Phe Pro Val Ala Ala Gly Ala
 355 360 365
 Thr Cys Leu Ser His Ser Val Ala Val Val Thr Ala Ser Ala Ala Leu
 370 375 380
 Thr Gly Phe Thr Phe Ser Ala Leu Gln Ile Leu Pro Tyr Thr Leu Ala
 385 390 395 400
 Ser Leu Tyr His Arg Glu Lys Gln Val Phe Leu Pro Lys Tyr Arg Gly
 405 410 415
 Asp Thr Gly Gly Ala Ser Ser Glu Asp Ser Leu Met Thr Ser Phe Leu
 420 425 430
 Pro Gly Pro Lys Pro Gly Ala Pro Phe Pro Asn Gly His Val Gly Ala
 435 440 445
 Gly Gly Ser Gly Leu Leu Pro Pro Pro Pro Ala Leu Cys Gly Ala Ser
 450 455 460
 Ala Cys Asp Val Ser Val Arg Val Val Val Gly Glu Pro Thr Glu Ala
 465 470 475 480
 Arg Val Val Pro Gly Arg Gly Ile Cys Leu Asp Leu Ala Ile Leu Asp
 485 490 495
 Ser Ala Phe Leu Leu Ser Gln Val Ala Pro Ser Leu Phe Met Gly Ser
 500 505 510
 Ile Val Gln Leu Ser Gln Ser Val Thr Ala Tyr Met Val Ser Ala Ala
 515 520 525
 Gly Leu Gly Leu Val Ala Ile Tyr Phe Ala Thr Gln Val Val Phe Asp
 530 535 540
 Lys Ser Asp Leu Ala Lys Tyr Ser Ala
 545 550

<210> 114
 <211> 241
 <212> PRT
 <213> Homo sapien

<400> 114
 Met Gln Cys Phe Ser Phe Ile Lys Thr Met Met Ile Leu Phe Asn Leu
 1 5 10 15
 Leu Ile Phe Leu Cys Gly Ala Ala Leu Ala Val Gly Ile Trp Val
 20 25 30
 Ser Ile Asp Gly Ala Ser Phe Leu Lys Ile Phe Gly Pro Leu Ser Ser
 35 40 45
 Ser Ala Met Gln Phe Val Asn Val Gly Tyr Phe Leu Ile Ala Ala Gly
 50 55 60
 Val Val Val Phe Ala Leu Gly Phe Leu Gly Cys Tyr Gly Ala Lys Thr
 65 70 75 80
 Glu Ser Lys Cys Ala Leu Val Thr Phe Phe Phe Ile Leu Leu Leu Ile
 85 90 95
 Phe Ile Ala Glu Val Ala Ala Ala Val Val Ala Leu Val Tyr Thr Thr
 100 105 110
 Met Ala Glu His Phe Leu Thr Leu Leu Val Val Pro Ala Ile Lys Lys

	115		120		125										
Asp	Tyr	Gly	Ser	Gln	Glu	Asp	Phe	Thr	Gln	Val	Trp	Asn	Thr	Thr	Met
	130					135					140				
Lys	Gly	Leu	Lys	Cys	Cys	Gly	Phe	Thr	Asn	Tyr	Thr	Asp	Phe	Glu	Asp
145				150		155				155					160
Ser	Pro	Tyr	Phe	Lys	Glu	Asn	Ser	Ala	Phe	Pro	Pro	Phe	Cys	Cys	Asn
			165						170					175	
Asp	Asn	Val	Thr	Asn	Thr	Ala	Asn	Glu	Thr	Cys	Thr	Lys	Gln	Lys	Ala
		180						185					190		
His	Asp	Gln	Lys	Val	Glu	Gly	Cys	Phe	Asn	Gln	Leu	Leu	Tyr	Asp	Ile
	195					200					205				
Arg	Thr	Asn	Ala	Val	Thr	Val	Gly	Gly	Val	Ala	Ala	Gly	Ile	Gly	Gly
	210					215					220				
Leu	Glu	Leu	Ala	Ala	Met	Ile	Val	Ser	Met	Tyr	Leu	Tyr	Cys	Asn	Leu
225					230					235					240
Gln															

<210> 115
 <211> 366
 <212> DNA
 <213> Homo sapien

<400> 115	
gctctttctc tccctctctc tgaatttaaf tctttcaact tgcattttgc aaggattaca	60
catttcactg tgaatgtat tgtgtttgcaa aaaaaaaaa gtgtctttgt ttaaaattac	120
ttggtttgtg aatccatctt gctttttccc catttggaaat agtcattaac ccctctctga	180
actggttagaa aaacatctga agagctagtc tctcagcctc tgacaggtga attggatggt	240
tctcagaacc atttcaccca gacagcctgt tctctctctg ttttaataaaf tagtttgggt	300
tctctacatg cttatcaaaa cctgcttcaa tctgtcaccat aaaaagtctgt gacllgaagt	360
ttagtc	366

<210> 116
 <211> 282
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(282)
 <223> n = A,T,C or G

<400> 116	
acaagatga accatttccct atattatagc aaaattaaaa tctaccctga ttctaatatt	60
gagaaatgag atnaaacaca atnttatana gtctaattag agaagatcaa gtgacctcaa	120
agactttact attttcatat ttttaagacac atgattttat ctattttagt aacctggttc	180
atcgtttana caaaggataa tctgaacagc agagaaggatt tgttggcaga aaatctatgt	240
tcaatctnga acletctana tcacagaunt ttctatttcc t	282

<210> 117
 <211> 305
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(305)
 <223> n = A,T,C or G

<400> 117	
aracatgtcg cttcactgcc ttcttagatg cttctggtca acatanagga acagggacca	60
tatttatcct cctcctgaa acaattgcaa aataaataaa aatatatgaa acaattgcaa	120

aataaggcaa aatatatgaa acaacaggtc tcgagatatt ggaaatcagt caatgaagga	180
tactgatccc tgatcaactgt cctaattgcag gatgtgggaa acagatgagg tcacctctgt	240
gactgcccga gattactgcc tgtagagagt ttctangctg cagttcagac agggaggaat	300
tggt	305

<210> 118
 <211> 71
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1}...{71}
 <223> n = A,T,C or G

<400> 118	
accaagggtgt ntgaatctct gacgtgggga tctctgattc ccgcacaatc tgagtggaaa	60
baatcctggg t	71

<210> 119
 <211> 212
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1}...{212}
 <223> n = A,T,C or G

<400> 119	
actccggltg gtgtcagcag cagctggcat tgaacatngc aatgtggagc ccaaaccaca	60
gaaaatgggg tgaaattggc caactttcta tnaacttatg ttggcaantt tgccaccaac	120
agtaagctgg cccttctaataaaaagaaaat tgaaggttt ctoactaanc ggaattaant	180
aatggantca agaaactccc aggcctcagc gt	212

<210> 120
 <211> 90
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1}...{90}
 <223> n = A,T,C or G

<400> 120	
actcgttgca natcaggggc cccccagagt caccgttgca ggagtccttc tggctcttgcc	60
ctccgcgggc gcagaacatg ctgggggtgt	90

<210> 121
 <211> 218
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1}...{218}
 <223> n = A,T,C or G

<400> 121	
tgtanctga anaagacaga aagggttgtc aaaaatggag aaccccttga gtcatttlga	60
gaataagatt tgctaagaga ttgggggcta aaacatggtt attggggagc atttctgaag	120

atatncangt aaattangga atgaattcat ggttcttttg ggaattcctt taecatngcc 100
agcatanaact tcatgtgggg atancegcte ccttctga 218

<210> 122
<211> 171
<212> DNA
<213> Homo sapien

<400> 122
taggggltga tgcactgtg aggcacaaaa ttgagactca actggcttaa ccaataaagg 60
catttcttag ctcatngaac aggaagtcgg atggtggggc atcttcagtg ctgcatgagt 120
caccaccccg gcgggggtcat ctgtgccaca ggtccctgtt gacagtgcgg t 171

<210> 123
<211> 76
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(76)
<223> n = A,T,C or G

<400> 123
tgtagcgtga agacnacaga atggtgtgtg ctglcctatc caggacacac tttatlatca 60
ttatcaanta ttgtgt 76

<210> 124
<211> 131
<212> DNA
<213> Homo sapien

<400> 124
acctttcccc aaggccaatg tctgtgtgtg taactggccg gctgcaggac agctgcaatt 60
caatgtgtgt ggtcatatgg aggggaggag actctaaaat agccaatttt attctcttgg 120
ttaagatttg t 131

<210> 125
<211> 432
<212> DNA
<213> Homo sapien

<400> 125
acitlclcta ctggctatga aatagatggt ggaaaattgc gttaccaact ataccactgg 60
cttgaagaag aggtgatagc tcttcagagg acttctgact tttgctcaga tgcagaagaa 120
ctacagtcctg catttggcag aaatgaagat gaacttggat taaatgagga tgcagaagat 180
ttgcctcacc aaacaaaagt gaaacaactg agagaaaatt ttcaaggaaa aagacagtgg 240
ctcttgaagt atcagtcact tttgagaatg tttottagtt actgcatact tcatggatcc 300
catggtgggg gtcttgcata tgtaagaatg gaattgattt tgccttttga agaattctcag 360
caggaaacat cagaaccact attttctago cctctgtcag agcaaacctc agtgcctctc 420
ctctttgctt gt 432

<210> 126
<211> 112
<212> DNA
<213> Homo sapien

<400> 126
acacaacttg aatagtaaaa tagaacLga gctgaaattt claatccact Llttaaccat 60
agtgaagatg atatttccc ccagggtcca ccaaatattt aLaaaaattt gt 112

<210> 127

<211> 54
 <212> DNA
 <213> Homo sapien

<400> 127
 accacgaaac cacaaacag atggaagcat caatccactt gccaaagcaca gcag 54

<210> 128
 <211> 323
 <212> DNA
 <213> Homo sapien

<400> 128
 acctcattag taattgtttt gttgtttcat ttttttctaa tgtctccct ctaccagctc 60
 acctgagata acagaatgaa aatggaagga cagccagatt tctcctttgc tctctgtca 120
 ttctctctga agtctagggt acccattttg gggaccatt ataggcaata aacacagttc 180
 ccaaagcatt tggacagttt cttgtttgtt tttagaatgg ttttcccttt tcttagcctt 240
 ttctgcaca aggtcactc agtcccttgc ttgtcagtg gactgggctc cccagggcct 300
 aggtgcctt cttttccatg tcc 323

<210> 129
 <211> 192
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(192)
 <223> n = A,T,C or G

<400> 129
 acatacatgt gtgtatattt ttaaatatca cttttgtatc actctgaatt tttagcatat 60
 tgaaaacaca ctaacataat ttntgtgaa catgatcaga tacaacccaa atcattcato 120
 tagcacattc atctgtgata naaagatagg tgagtttcat ttcttccag ttggccaatg 180
 gataaacaaa gt 192

<210> 130
 <211> 362
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(362)
 <223> n = A,T,C or G

<400> 130
 ccctttttta tggaaatgagt agactgtatg tttgaanatt tanccacaac ctctttgaca 60
 tataatgacg caacaaaang gtgtgtttta gtcctatggt tcagtttatg cccctgacaa 120
 gtttccattg tgtttttgcg atcttctgac taatcgtggt atcttccatg ttattagtaa 180
 ttctgtattc cttttttgta acgcctggta gatctaacct gctangagga taactttata 240
 cttatttana agctcttatt ttgtggcact taagtgtgca atttatgtgc agcactttat 300
 tgcagcagga agwacgtgtg ggttggltgt aaagctcttt gclaatctta aagagtaatg 360
 gg 362

<210> 131
 <211> 332
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature

<222> {1}...{332}

<223> n = A, T, C or G

<400> 131

ctttttgaaa	gategtggtcc	actcctgtgg	acatcttgtt	ttaatggagt	ttcccatgca	60
gtangactgg	tatggttgca	gctgtccaga	taaaaacatt	tgaagagctc	caaaatgaga	120
gttctcccag	gttcgccctg	ctgctccaag	tctcagcagc	agcctctttt	aggaggcatc	180
ttctgaacta	gattaaggca	gottgtaaat	ctgatgtgat	ttggttttatt	atccaaactaa	240
cttccatctg	ttatcactgg	agaaagccca	gactccccc	gaconggtacg	gatttgtggc	300
atanaaggat	tgggtgaagc	tggcgttgtg	gt			332

<210> 132

<211> 322

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}...{322}

<223> n = A, T, C or G

<400> 132

acttttgcca	ttttgtalat	ataascaatc	ttggggacatt	ctcctgaaaa	ctaggtgtcc	60
agtggctaag	agaactcga	ttcaagcaat	tctgaagga	aaaccagcat	gacacagaat	120
ctcabaatcc	caaacagggg	ctctgtggga	aaaatgaggg	aggacctttg	tatctcgggt	180
ttlagcaagt	taaaatgaan	atgacaggaa	aggcttatit	atcaacaaag	agaagagttg	240
ggatgcttct	aaaaaaaaact	ttggtagaga	aaataggaat	gctnaatcct	agggaagcct	300
gtaacaatct	acaattgggc	ca				322

<210> 133

<211> 278

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}...{278}

<223> n = A, T, C or G

<400> 133

acaagccttc	acaagtttaa	ctaaattggg	attaatcttt	ctgtanttat	ctgcataatt	60
cttgtttttc	tttccatctg	gctcctgggt	tgacaatttg	tggaaacaac	tctatttgcta	120
ctatttaaaa	aaaatcacia	atctttccct	ttaagctatg	ttnaattcaa	actattcctg	180
ctattcctgt	tttgtcaaa	aaatttatatt	tttcaaaaata	tgintatttg	tttgatgggt	240
cccacgaaac	actaataaaa	accacagaga	ccagcctg			278

<210> 134

<211> 121

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}...{121}

<223> n = A, T, C or G

<400> 134

gtttanaaaa	cttgttttagc	tccatagagg	aaagaatgtt	aaactttgta	ttttaaaaca	60
tgattctctg	agggttaaact	tgggtttcaa	atgttatit	tacttgatt	ttgcttttgg	120
c						121

<210> 135

<211> 350
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(350)
 <223> n = A,T,C or G

<400> 135
 acttanaacc atgcctagca catcagaatc cctcaaagaa catcagtata atcctatacc 60
 atancaagtg gtgactggtt aagcgtgcga caaaggtcag ctggcacatt acttgtgtgc 120
 aaacttgata cttttgtttt aagtaggaac tagtatacag tncctaggan tggtaactcca 180
 ggggtgcccc caactcctgc agccgctcct ctgtgccagn cccctgnaagg aactttcgtc 240
 ccacctcaat caagccctgg gccatgctac ctgcaattgg ctgaacaaac gtttgetgag 300
 ttcccaagga tgcaagcct ggtgctcaac tectggggcg tcaactcagt 350

<210> 136
 <211> 399
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(399)
 <223> n = A,T,C or G

<400> 136
 tgtaccgtga agacgacaga agttgcatgg cagggacagg gcagggccga ggccagggtt 60
 gctgtgattg tatccgaata ntccctcgtg gaaagataa tgagatgacg tgaacagcct 120
 gcagacttgt gtctgccctc aanaagccag acaggaaagg cctgcctgcc ttggctctga 180
 cctggcgccc agccagccag ccacagggtg gcttctcct tttgtggtga ccccnccag 240
 aaaaactgcag agggccaggg tcagggtgna gtgggtangt gaccalaaa caccagggtg 300
 tccaggaac ccgggcaaaq qccatcccc cctacagcca gcctgcccac tggcgtgatg 360
 ggtgcagang gatgaagcag ccagntgltc tgcLgtggt 399

<210> 137
 <211> 165
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(165)
 <223> n = A,T,C or G

<400> 137
 actggtgtgg tngggggtga tgctgggtgt anaagttcan gtgacttcan galgggtgtg 60
 ggagggaagt tgtgaacgta gggatgtaga ngktttgcco gtgcLaaatg agcttcggga 120
 ttggctggtc ccactgqlqg tcactgtcat tggtaggglt cctgt. 165

<210> 138
 <211> 338
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(338)
 <223> n = A,T,C or G

<400> 138

actcactgga	atgccacatt	cacaacagaa	tcagaggctt	gtgaaaacat	taattggctcc	60
ttaacttctc	cagtaagaat	cayggacttg	aatggaaac	gttaacagcc	acatgcccaa	120
tgtctgggcag	tctcccatgc	cttccacagt	gaaagggctt	gagaaaaatc	acatccaatg	180
tcatgtgttt	ccagccacac	caaaagggtgc	ttgggggtga	gggctggggg	catananggt	240
cangcctcag	gaagcctcaa	gttccattca	gctttgcvac	tgtacattcc	ccatntttas	300
aaaaactgat	gccttttttt	tttttttttg	taaaallc			338

<210> 139

<211> 382

<212> DNA

<213> Homo sapien

<400> 139

gggaattcttg	gtttttggca	tctggcttgc	ctatagccga	ggccactttg	acagaacaaa	60
gaaagggact	tcagglanga	aggtgattta	cagccagcct	agtgcccgaa	gtgaaggaga	120
attcaaacag	acctcgtcat	tcctgggtgtg	agcctggctg	gctcaccgcc	tatcatctgc	180
atttgacctta	ctcagglgct	accggactct	ggccctgat	gtctgtagtt	tcacaggatg	240
cottatllgt	cttctaccc	ccacagggcc	ccctacttct	tcggatgtgt	ttttaataat	300
gtcagctatg	tgcctccatcc	tccttcatgc	cctccctccc	tttctacca	ctgctgagtg	360
gcclgggaact	tgttttaagt	gt				382

<210> 140

<211> 200

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...[200]

<223> n = A, T, C or G

<400> 140

acgaanctt	ctttctgttg	tgttngattt	tactataggg	gtttngcttn	ttctaaanat	60
acttttcatt	taacancttt	tgttaagtg	caggctgcac	tttgcctcat	anaattattg	120
ttttcacatt	tcaacttgta	tgtgtttgtc	tottanagca	ttggtgaaat	cacatatttt	180
atattcagca	taaaggagaa					200

<210> 141

<211> 335

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...[335]

<223> n = A, T, C or G

<400> 141

actllatttt	caaaacactc	atatgttgca	aaaaacacat	agaaaaataa	agttttggtg	60
gggtgctgac	taaacttcaa	gtcacagact	tttatgtgac	agattggagc	agggttttgt	120
atgcatgtag	agaacccaaa	ctaatttatt	aaacaggata	gaaacaggct	gtctgggtga	180
aatggtttctg	agaaccatcc	aattcacctg	tcagatgctg	atanactagc	tcttcagatg	240
ttttcttacc	agttcagaga	tnggttaatg	actanttcca	atgggggaaa	agcaagatgg	300
attcacaasc	caagtaattt	taaacaaaga	cactt			335

<210> 142

<211> 459

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}...{459}

<223> n = A,T,C or G

<400> 142

accagggttaa	tattgccaca	tatatccttt	ccaattgogg	gctaaacaga	cggtgtattta	60
gggttggttta	aagacaaccc	agcttaatat	caagagaaat	tgtgaccttt	catggagtat	120
ctgatggaga	aaacactgag	ttttgacaaa	tottattttta	ttcagatagc	agtctgatca	180
cacatgggtcc	aacaacactc	aaataataaa	tcaaatatna	tcagatgtta	aagattggtc	240
ttcaaacatc	atagccaastg	atgccccgct	tgcctataat	ctctccgaca	taaaaccaca	300
tcaaacacctc	agtggccacc	aaaccoattca	gcacagcttc	cttaactgtg	agctgtttga	360
agctaccagt	ctgagcacta	ttgactatnt	ttttcangct	ctgaatagct	ctagggatct	420
cagcanggggt	gggagggaacc	agctcaacct	tggcgant			459

<210> 143

<211> 140

<212> DNA

<213> Homo sapien

<400> 143

acatttcctt	cccccagtc	aggactcctg	gcttctgtgg	gagttcttat	cacctgaggg	60
aaatccaaa	agtctctct	agaaagggaat	agtgctacca	accccaccca	tctccctgag	120
accatccgac	ttccctgtgc					140

<210> 144

<211> 164

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> {1}...{164}

<223> n = A,T,C or G

<400> 144

acttcagtaa	caacatcaaa	taacaacatt	aagtgtatat	tgccatcttt	gtcattttct	60
atctatacca	ctctcccttc	tgaaaacaa	aatcaactanc	caatcactta	tacaaatttg	120
aggcaattta	tccatctttg	ttttcaataa	ggaaaaaaag	atgt		164

<210> 145

<211> 303

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> {1}...[303]

<223> n = A,T,C or G

<400> 145

acgtagacca	tcaacttttg	tatttgtaat	ggcaaacatc	cagnagcaat	tccctaaacaa	60
actggagggt	atttatccgc	aattatccca	ttcatttaac	tgcctctctc	ctcagggtat	120
gcaggacagc	tctcatlaag	cggccacagg	atccagatasc	taccatttgt	ataaacttca	180
gtaggggagt	ccatccaaag	gacaggtcta	atcaaaggag	gaaatgggac	ataagcccag	240
tagtaaaatn	tlgcttaggt	gaacacagcca	caaaagactt	accgcccgtg	tgattaccat	300
caa						303

<210> 146

<211> 327

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(327)
 <223> n = A,T,C or G

<400> 146
 actgcagctc aattagaagt ggtctctgac ttctcatcanc ttctccctgg gctccatgac 60
 actggcctgg agtgactcat tgctctgggtt ggttgagaga gctcccttgc caacaggcct 120
 ccaagtcagg gctgggattt gtctcccttc cacattctag caacaatatg ctggccactt 180
 cctgaacagg gagggtagga ggagccagca tggacaagc tgccactttc taaagtatgc 240
 agacttgcgc ctgggcctgt cacacctact gatgaccttc tgtgcctgca ggatggaatg 300
 taggggtgag ctgtgtgact ctatggt 327

<210> 147
 <211> 173
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(173)
 <223> n = A,T,C or G

<400> 147
 acattgtttt tttagataa agcattgana gagctctcct taacgtgaca caatggaagg 60
 actggaacac ataccacat ctttgttctg agggataatt ttctgataaa gtcttgctgt 120
 atattcaagc acatatgtta tatattattc agttccatgt ttatagccta gtt 173

<210> 148
 <211> 477
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(477)
 <223> n = A,T,C or G

<400> 148
 acaaccactt tatctcatcg aatttttaac ccaaactcac tcaactgtgc tttctatcct 60
 atgggatata ttatttgatg ctccatttca tcacacatat atgaataata cactcatact 120
 gccctactac ctgctgcaat aatcacattc ccttcctgtc ctgacccctga agccattggg 180
 gtgggtcctag tggccatcag tccangcctg caccttgagc ccttgagctc cattgctcac 240
 nccancccac ctccccgacc ccctcctcct acacagctac ctcccttgctc totaaccoca 300
 tagattatnt cczzattcag tcaattcagt tactattaac actctacccg acatgtccag 360
 caccactggg aagccttctc cagccaacac acacacacac acacncacac acacacatat 420
 ccaggccacag gttacclcal ct:cacacac acccctttaa ttaacatgcl atggtgg 477

<210> 149
 <211> 207
 <212> DNA
 <213> Homo sapien

<400> 149
 acagttgtat tataatatca agaaataaac ttgcaatgag agcatttaag agggagaagac 60
 taacgtatatt tagagagcca aggaagggtt ctgtggggag tgggatgtaa ggtggggcct 120
 gatgataaat aagagtcagc caggtaagtg ggtgggtgtg tatgggcaca gtgaagaaca 180
 ttccaggcag aggggaacagc agtgaaa 207

<210> 150
 <211> 111
 <212> DNA
 <213> Homo sapien

```

<220>
<221> misc_feature
<222> (1)...(111)
<223> n = A,T,C or G

<400> 150
accttgattt cattgctgc ctagtggaac cccaactatc taatttagct aaaacatggg      60
cacttaaatg tgggacagtgt ttggacttgt taactantgg catctttggg t      111

<210> 151
<211> 196
<212> DNA
<213> Homo sapien

<400> 151
agcgcgccag gtcattattga acattccaga tacctatcat tactcgatgc tgttgataac      60
agcaagatgg ctttgaactc agggtcacca ccagctattg gaccttacta tgaanaaccat      120
ggataccaaac cggaaaaccc ctatcccgca cagcccaactg tgggtcccaac tgtctacgag      180
gtgcacccgg ctccagt

<210> 152
<211> 132
<212> DNA
<213> Homo sapien

<400> 152
acagcaattt cccatgcgaag aagggagaaa ttccctaastg taggagaaaag ataacagaaac      60
cttccclttt ccatctcagtgt gtggaaacct gatgctttat gtgacagga atagaaccag      120
gagggagttt gt      132

<210> 153
<211> 285
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(285)
<223> n = A,T,C or G

<400> 153
acaanaccca nganaggcca ctggccgtgg tgtcatggcc tccaaacatg aaagtgtcag      60
ctlctgtctt tatgtctcca tctgacaaat ctttaccatt tttatcctcg ctcagcagga      120
gcacatcaat aaagtccaaa gtcttggact tggccttggc ttggaggaag tcatcaaac      180
cctggctagt gagggtgagg cgcgcctcct ggatgaaggc atctgtgaag togtgaccca      240
gtctgcaggc cctgtggaag cgcgcgtccac aaggagtnag gaatt.      285

<210> 154
<211> 333
<212> DNA
<213> Homo sapien

<400> 154
accacagtc tgttgggcca gggcttcatg accctttctg tgaagaagca tattcalcacc      60
accccaaat tttccttaaa tatcttlaac tgaagggggc agcctcttga clqcaaaagac      120
cctaagccgg ttacacagct aactcccact ggcctctgatt tgtgaattg ctgctgectg      180
attggcacag gagtgcgaag tqltcaagtc cccctcctcc tggaaacgaga ctctgatttg      240
agtttcacaa attctcgggc cactcctgca ttgctcctct gaataaaaat ccggagaatg      300
gtcaggcctg tctcatccat alggatcttc cgg      333

<210> 155

```


<211> 308
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(308)
 <223> n = A,T,C or G

<400> 155
 actggaaata ttaaaaccca cctccacagt ttgtgtcaaa gatcatcagg gcatggatgg 60
 gaaagtgcct tgggaactgl aaagtgccta acacatgac gatgattttt gttataatat 120
 ttgaatcacg gtgcatacaa actctcctgc ctgctcctcc tgggccccag cccagcccc 180
 atcacagctc actgctctgt tcatccaggc ccagcatgta gtggctgatt cttcttggct 240
 gcttttagcc tccanaggtt tctctgaagc caaccaaacc totangtcta aggcattgctg 300
 gccctggc 308

<210> 156
 <211> 295
 <212> DNA
 <213> Homo sapien

<400> 156
 accttgcctg gtgcttggaa catattagga actcaaaata tgagatgata acagtgccca 60
 ttattgatta ctgagagaac tgttagacat ttggttgag allttclaca cagggaactga 120
 gaataggaga ttatgtttgg cctcatatt ctctccata ctccttgcct cttctatgt 180
 ctaatatatt ctcaatcann taaggtagc ataatcagga aatcgacca ataccaatat 240
 aaaaaccagat gtctatcctt aaqattttc aatcgaaacc aaattaacag actat 295

<210> 157
 <211> 126
 <212> DNA
 <213> Homo sapien

<400> 157
 acaagtttaa atagtgcctg cactgtgcat gtgctgaaat gtgaatcca ccacatttcl 60
 gaagagcaca acaaatctg tcatgtaac totatuttg gtcgtggtg tctctgtccc 120
 cttagt 126

<210> 158
 <211> 442
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(442)
 <223> n = A,T,C or G

<400> 158
 acccactggt ctgggaaca cccatcctta atacgatgat tttctgtcg tgtqaaaatg 60
 aancagcag gctgcccta gtcagtcctt cctlccagag aaaaagagat ttgagaaagt 120
 gcctgggtaa ttcaacatta atttcctccc ccaaacctcc tgagtcttcc cttaatattt 180
 ctggtggttc tgaccasagc aggtcatggt ttgtltagca tllgggattc caglgaaala 240
 natgtttgta gccttgata cttagucctt cccacgcaca aacggaglgg caggtggtg 300
 ccaaccctgt ttcccagtc cagctagaca gattcaagat gagggaattc ggaagctgga 360
 nacagacggg ctctttgag agucgggact ctgagangga catgagggac tclgcccctg 420
 tgttcattct ctgatgtcct gt 442

<210> 159
 <211> 498
 <212> DNA

52

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(498)

<223> n = A,T,C or G

<400> 159

acttccagggt	aacgttgtttg	tttccgttga	gocfgaactg	atgggtgacg	ttgtaggttc	60
tccaacaaga	actgagggtg	cagagcgggt	agggaagagt	gctgttccag	ttgcacctgg	120
gctgctgtgg	actgttgtttg	attcctcact	acggcccaag	gttgtggaac	tggcanaaag	180
gtgtgttgtt	gganttgagc	tggggcggct	gtggtagggt	gtgggtctct	caacaggggc	240
tgctgtgggt	cggggangtg	aangtgttgt	gtcacttgag	cttggccagc	tctggaaagt	300
antanattct	tctgaaagc	cagcgttgt	ggagctggca	ngggtcantg	ttgtgtgtaa	360
cgaaccagtg	ctgctgtggg	tgggtgtana	tcccccacaa	agcctgaagc	tatggtgten	420
tcaggtaana	atgtgttttc	agtgtccctg	ggcngctgtg	qaaggttgtg	natgttcacc	480
aagggaalaa	gctgttgt					498

<210> 160

<211> 380

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(380)

<223> n = A,T,C or G

<400> 160

acctgcctcc	agcttccctg	ccaaactcac	aaggagacat	caacctctcg	acaggggaac	60
agcttcaggc	tacttccagg	agacagagcc	acacagcagc	aaacaaataf	tccctgacct	120
ggagcatggc	atagaggaag	ctganaaatg	tggggtctga	ggaagccatt	tgagtctggc	180
cactagacat	ctcatcagcc	acttgtgtga	agagatgccc	catgacccca	gatgcctctc	240
ccacctttac	ctccatctca	caacattgag	ctttccactc	tgtataattc	taacatcctg	300
gagaaaaagt	gcagtttgac	cgaacctgtt	cacaacggta	gaggctgatt	tctaacgaaa	360
cttgtagaat	gaagcctgga					380

<210> 161

<211> 114

<212> DNA

<213> Homo sapien

<400> 161

actccacatc	cctctgagc	aggcggttgt	cgttcaagggt	gtattttggc	ttgacctgca	60
cactgtccac	tggccctta	tccacttggt	gcttaalccc	tggaaagagc	atgt	114

<210> 162

<211> 177

<212> DNA

<213> Homo sapien

<400> 162

acttLnlgaa	tcgaatcaaa	tgatacttag	tgtagtttta	atatcctcat	atatatcaaa	60
gttttaactac	tnlgatnaatt	ttgtaaacca	ggtaaccaga	acatccagtc	atacagcttt	120
Lggtgatata	taacttgga	ataaccaggt	ctggtgatag	ataaaactac	tcactgt	177

<210> 163

<211> 137

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(137)
 <223> n = A,T,C or G

<400> 163

catttataca	gacaggcgtg	aagacattca	cgacaaaaac	gcgaattctt	atcccgtag	60
canagaaggc	agctacggct	actcctacat	cctggcgtgg	gtggccttcg	cctgcacctt	120
catcagcggc	atgatgt					137

<210> 164
 <211> 469
 <212> DNA
 <213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(469)
 <223> n = A,T,C or G

<400> 164

cttatcncac	tgaatgttct	cctgggcagc	gttgtgatct	ttgcacctt	cgtgacttta	60
tgcaatgcct	catgtctatt	catacctaatt	gagggagttc	caggagattc	aaccaggaaa	120
tgcattggatc	tcaaaaggaa	caaaacaccca	ataaactcgg	agtggcagac	tgacaactgt	180
gagacatgca	cttgcctacga	aacagaaaatt	tcattgttga	cccttgtttc	tacacctgtg	240
ggttatgaca	agacaaactg	ccaaagaatc	tcaaagaagg	aggactgcaa	gtatatcgtg	300
gtggagaaga	aggaccacaa	aaagacctgt	tctgtcagtg	aattggataat	ctantgtgct	360
tctagtaggc	acagggtctc	caggccaggc	ctcaattctcc	tcgtgcctct	aatagtcaat	420
gatttgttag	ccatgcctat	cagtaaaaag	atntttgagc	aaacacttt		469

<210> 165
 <211> 195
 <212> DNA
 <213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(195)
 <223> n = A,T,C or G

<400> 165

acagtttttt	atanatateg	acattgcggg	caettgtgtt	cagtttcaat	aagctgggtg	60
atccgctgtc	atccactatt	ccttggctag	agtaaaaatt	attcttatag	cccatgtccc	120
tgcaggccgc	cggcccgtag	ttctcgtccc	agtcgtcttg	gcacacaggg	tgccaggact	180
tcctctgaga	tgagt					195

<210> 166
 <211> 383
 <212> DNA
 <213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(383)
 <223> n = A,T,C or G

<400> 166

acatcttagt	agtgtggcac	atcaggaggc	catcagggtc	acagtcactc	atagcctcgc	60
cgaggctcga	gtccacacca	cgggtgtagg	tgtgctcaat	cttgggcttg	gcgccacct	120
ttggagaagg	gatatgctgc	acacacatgt	ccacaaagcc	tgtgaactcg	ccaaagatt	180
tttgacagac	agcctgagca	aggggcggat	gttcagcttc	agcctcctct	tcgtcagggtg	240
gatgccaacc	tcgtctangg	tccgtgggaa	gctgggtgtcc	acntcaccta	caacctgggc	300
gangatotta	taaaagaggct	ccnagataaa	ctccacqaaa	cttctctagg	agclqctagt	360

ngggggccttc ttggtgaact ttc 383

<210> 167
 <211> 247
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...[247]
 <223> n = A,T,C or G

<400> 167
 acagagccag accttggcca taaatgaanc agagattaag actaaacccc aagtcganat 60
 tggagcagaa actggagcaa gaagtgggcc tggggctgaa gtagagacca aggcactgc 120
 catanccata cacagagcca actctcaggc caaggcnatg gttggggcag anccagagac 180
 tcaelctgan tccaaaatgg tggctggaa cctggctcatg acanaggcag tgactctgac 240
 tgaagtc 247

<210> 168
 <211> 273
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(273)
 <223> n = A,T,C or G

<400> 168
 acttctaagt ttctagaag tgggaaggatt gtantcatcc tgaaaatggg tttacttcaa 60
 aetccctcan ccttgttctt cactactgic tatactgana gtgtcatgtt tccacaaagg 120
 gctgacacct gagccctgnat ttccactcat ccttgagaag ccttttcag tagggtaggc 180
 aattcccaac ttctttgcca caagcttccc aggccttctc ccttggaaaa ctccagcttg 240
 agtcccgagc acactcatgg gctgacctgg gca 273

<210> 169
 <211> 431
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(431)
 <223> n = A,T,C or G

<400> 169
 acagccttgg cttccccaaa ctccacagtc tcaagtgcaga aagatcatct tccagcagtc 60
 agctcagacc agggctcaga gctgtgacal caacagtttc tggtttcaga acaggttcta 120
 ctactgtcaa ctgcccccc atactlccic aaaggctgtg gtaagttttg cacaggtgag 180
 ggcagcagaa agggggtant tactgatgga ccccatcttc ttgttatact ccacactgac 240
 cttgccatgg gcasaggccc ctaccacaaa acaaataggc tcactgctgg gcaccagtc 300
 acgcacatca ctgacaaccg ggatggaaaa agaantgcca actltcatac atccaaactgg 360
 aaagtgatct gatactggat tcttaattac ctllcaaaagc ttctgggggc catcagctgc 420
 tcgaacactg a 431

<210> 170
 <211> 266
 <212> DNA
 <213> Homo sapien

<220>

55

<221> misc_feature
 <222> (1)...(266)
 <223> n = A,T,C or G

<400> 170
 acctgtgggc tgggclgtta tgccctgtgcc ggctgctgaa agggagttca gaggtggagc 60
 tcaaggagct ctgccagcat tttgccaanc ctctccanag canagggggc aacctacact 120
 ccccgctaga aagacaccag attggagtcg tgggaggggg agttgggggtg ggcatttgat 180
 gtatacttgt cacttgatg aangagccag agagggaanga gacgaanag anattggcct 240
 tcaaaagctag gggctctggca ggtgga 266

<210> 171
 <211> 1248
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(1248)
 <223> n = A,T,C or G

<400> 171
 ggcagccaaa tcataaacgg cgaggactac agcccgcact cgcagacctg gcaggcggca 60
 ctggtcatgg aaanccaatt gttclgctcg ggcglcctgg tgcctccgca gtgggtgctg 120
 tcagccgcac actgtttcca gaagttagtg cagagctcct acaccatcgg gctgggectg 180
 cacagtcttg aggcagacca agagccaggg agccagatgg tggaggccag cctctccgta 240
 cggcaccacg aglccacacg acccttgctc gctaacgacc tcatgctcat caagttagac 300
 gaatccgtgl cagagctcga caccatccgg agcatcagca ttgcttcgca gtgcccatac 360
 gcgggggaact cttgcctcgt ttctggctgg ggtctgctgg cgaacggcag aatgcctacc 420
 gtcgtgcagt gcgtgaacgt gtcgggtggg tctgaggagg tctgcagtaa gctctatgac 480
 ccgtgtgacc accccagcat gttctgcgcc ggcgaggggc aagaccagaa ggactcctgc 540
 aacgggtgact ctgggggggc cctgatctgc aacgggtact tgcaggggct tgtgtctttc 600
 ggaaaagccc cgtgtggcca agttggcgtg ccaggtgtct acacuaacct ctgcaaatlc 660
 actgagtggg tagagaaaaa cgtccaggcc agtttaactct ggggactggg aacctatgaa 720
 attgaccccc aaatacater tgcggnaagga attcaggaat atctgttccc agccctcccl 780
 cctcaggccc caggagtcca ggcgccccag ccctcctccc tcaaaaccaag ggtacagatc 840
 cccagccctc cctccctcag aaccaggagt ccagaccccc cagccctccc tccctcagac 900
 ccaggagtcu agccctcct cctccagacc caggagtcca gacccccag cccctcctcc 960
 ctccagcccc qggglccagg ccccccaccc ctcctcctcc agactcagag gtccaagccc 1020
 ccaacccntc attcccccaga cccagagggtc cagggtcccag cccctontcc ctccagaccca 1080
 gcggtcccaat gccacctaga ctntccctgt acacagtgcc cccttgtggc acgttgaccc 1140
 aaccliacca gttggttttt catTTTTngt ccctttcccc tagatccaga aataaagttt 1200
 aagagaagng caaaaaaaa aaaaaa aaaaaa aaaaaa 1248

<210> 172
 <211> 159
 <212> PRT
 <213> Homo sapien

<220>
 <221> VARIANT
 <222> (1)...(159)
 <223> Xaa = Any Amino Acid

<400> 172
 Met Val Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro
 1 5 10 15
 Leu Leu Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser
 20 25 30
 Glu Ser Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr
 35 40 45
 Ala Gly Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly

56

50		55		60
Arg Met Pro Thr Val	Leu Gln Cys Val Asn Val	Ser Val Val Ser Glu		
65	70	75	80	
Glu Val Cys Ser Lys	Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe			
	85	90	95	
Cys Ala Gly Gly	Gln Xaa Gln Xaa Asp Ser Cys Asn Gly Asp Ser			
	100	105	110	
Gly Gly Pro Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe				
	115	120	125	
Gly Lys Ala Pro Cys Gly Gln Val Gly Val Pro Gly Val Tyr Thr Asn				
	130	135	140	
Leu Cys Lys Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Ala Ser				
145	150	155		

<210> 173
 <211> 1265
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(1265)
 <223> n = A,T,C or G

<400> 173

ggcagccccc	actcgcagcc	ctggcaggcg	gcactgggtca	tggaaaacga	attgttctgc	60
tccggcgctcc	tggtgcaccc	gcagtgaggcg	ctgtcagccg	cacactgttt	ccagaaactcc	120
tacaccatcg	ggctgggccc	gcacagtcct	gagggccgacc	aagagccagg	gagccagatg	180
gtggaggcca	gcctctccgt	acggcaccca	gagtacaaca	gaccttgct	cgctaaccgac	240
ctcatgctca	tcaagttgga	cgaatccgtg	tccgagtcgt	acaccatccg	gagcatcagc	300
attgtttcgc	agtgcctac	cgcgggggaa	tcttgctcgt	tttctggctg	gggtctgctg	360
gcgaacgggtg	agctcagggg	tgtgtgtctg	ccctcttcaa	ggagggtcctc	tgcccagtcg	420
cggggggtga	cucagagctc	tgcgtcccag	gcagaatgcc	taccgtgctg	cagtgcgtga	480
acgtgtcggg	ggltgttgag	gaggtctgca	gtaagctcta	tgacccgctg	taccacccca	540
gcctgttttg	cgcggggcga	gggcaagacc	agaaqgactc	ctgcaacggg	gactctgggg	600
ggccctcga	ctgcaacggg	tacttgccgg	gccttgctgc	lctgggaana	gccccgtgtg	660
gccaagttag	cgtgcacggg	gtclacanna	acctctgcaa	attcaactga	lqgatagaga	720
aaaccgtcca	ggccagttaa	ctctggggac	tgggaaccna	tgaastlga	ccccaaatat	780
atcctgcgga	aggaattcag	gaatatctgt	tcccagcccc	tctctcctca	ggccnaggag	840
tccaggcccc	cagcccctcc	tccctcaaac	caagggtaca	gatccccagc	ccctctccc	900
tcagaccacg	gagtcacagc	ccccagcccc	ctcctccctc	agaccacagg	gtccagcccc	960
tctcctntca	gaaccaggag	tccagacccc	ccagcccctc	ctcctcaga	cccagggggtt	1020
gaggccccca	acccctcctc	cttcagagtc	agagggtccaa	gcccccaacc	ccctcgttccc	1080
cagaccacga	ggtnnaggtc	ccagcccctc	ttccttcaga	cccagnggtc	caatgccacc	1140
tagattttcc	ctgnacacag	tgcccctctg	tggnangttg	acccaacctt	accagttggg	1200
ttttcatttt	tngtcccttt	cccctagatc	cagaataaaa	gtttaagaga	ngngcaaaaa	1260
aaaaa						1265

<210> 174
 <211> 1459
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(1459)
 <223> n = A,T,C or G

<400> 174

ggtcagccgc	acactgtttc	cagaagtggg	tgacagagtc	ctacaccate	gggctggggc	60
tgacagagtc	tgaggccgac	caagagccag	ggagccagat	ggtagaggcc	agcctctncc	120
tacggcacc	agagtacaac	agacccttgc	tcgctaaccg	ccctcatgctc	atcaagttgg	180

acgaatccgt	gtccgagttct	gacaccatcc	ggagcatcag	cattgcttcg	cagtgcoccta	240
ccgcggggaa	ctcttgctct	gtttctggt	ggggctgct	ggcgaacgt	gagotcaccg	300
gtgltgtct	gccctcttca	aggaggtct	ctgcccagtc	gcgggggtg	acccagagut	360
ctgcgtccca	ggcagaatgc	ctccgtgct	gcagtgcgtg	aacgtgtcgg	tggtgtclga	420
ngaggtctgc	antaagctcl	atgaccgct	gtaccacccc	ancatgttcl	gcgcgggctg	480
agggcaagac	cagaaggaat	cctgcaaccl	gagagagggg	aaaggggagg	gcaggcagct	540
cagggaagg	tggaagaagg	ggagacagag	acacacaggg	ccgcaltggc	agatgcagag	600
atggagagac	acacagggag	acagtgcnaa	ctagagagag	aaactgagag	aaacagagga	660
ataaacacag	gaataaagag	aagcaagga	agagagaaac	agaaacagac	atggggaggc	720
agaaacacac	acacatagaa	atgcagttga	ccttcnaara	gcattggggc	tgayggcgg	780
gacctccacc	caatagaaaa	tectcttata	acttttgact	ccccaaaaac	ctgectagaa	840
atagcctact	gttgacgggg	agccttacca	ataacataaa	tagtcgattt	atgcatacgt	900
tttatgcat	catgatatac	ctttgttggg	attttttgat	atttctaagc	tacacagttc	960
gtctgtgaat	ttctttaa	tgttgcaact	ctcctaaaat	ttttctgatg	tgtttattga	1020
aaaaatccaa	gtataagtgg	acttgtgcat	tcaaaccagg	gttgttcaag	ggtcaactgt	1080
gtacccagag	ggaaacagtg	acacagattc	atagaggtga	aaacagaa	gaaacaggaa	1140
aatcaagac	tctacaaaga	ggtgggcag	ggtggtcat	gcctgtaatc	ccagcacttt	1200
gggagggcag	gcaggcagat	cacttgaggt	aaggagttca	agaccagcct	ggccaaaatg	1260
gtgaaatcct	gtctgtacta	aaaatacaaa	agttagctgg	atatggtggc	aggcgctgt	1320
aatccacagc	acttgggagg	ctgaggcagg	agaattgctt	gaatatggga	ggcagaggtt	1380
gaagtgaatt	gagatcacac	cactatactc	cagctggggc	aacagagtaa	gactctgtct	1440
caaaaaaaaa	aaaaaaaaa					2459

<210> 175

<211> 1167

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> (1)...(1167)

<223> n - A,T,C or G

<400> 175

gcgagccct	ggcaggcggc	actggtcatg	gaaaacgaat	tgttctgctc	ggcgctcctg	60
gtgcacccgc	agtgggtgct	gtcagccgca	cactgtttcc	agaactccta	caccatcggg	120
ctgggcttgc	acagtcttga	ggccgaccaa	gagccaggga	gccagatggg	ggaggccagc	180
ctctccgtac	ggcaccacaga	gtacaacaga	ctcttgctug	ctaacgacct	catgctcatc	240
aagtlggaag	aatccglgtc	cgaqtctgac	accatccggg	gcatacagat	tgcttcgacg	300
l:qccctaccg	cggggaactc	ctgcclcgtn	tctggctggg	gtctgctggc	gaacggcagg	360
atgcctaccg	tgtgcaactg	ngtgaacgtg	l:cgatggltg	ctgaggangt	ctgcagtaag	420
ctctatgacc	cgtgtaccac	ccccagcctg	tcttgccgca	gcggaggggc	agaaacagag	480
gactcctgca	acggtgactc	tggggggccc	ctgatctgca	acgggtactt	gcagggcctt	540
gtgtctttcg	gaaaagcccc	gtgtggccaa	cctggcgtgc	cagggtgctc	caccacacct	600
tgcasaattca	ctgagtggat	agagaaaaac	gtccagacca	gttaactctg	gggactggga	660
acccatgaaa	ttgaccccca	aatacatcct	gcggaangaa	ttcagggaata	tctgttccca	720
gccctccttc	cctcaggccc	aggagtccag	gccccagccc	cctcctccct	caaaccaagg	780
gtacagatcc	ccagcccttc	ctccctcaga	cccaggagtc	cagacccccc	agccctcnt	840
ccntcagacc	caggagtcca	gccccctctc	cntcagacgc	aggagtccag	accccccagc	900
ccntcntccg	tcagaccacg	gggtgcaggc	ccccaacccc	tcntcntca	gagtcagagg	960
tccaagcccc	caacccctcg	ttccccagac	ccagaggtnc	aggtcccagc	cctcctctcc	1020
tcagaccacg	cggtcacatg	ccacctagan	tnccctgta	cacagtgcoc	ccttgtggca	1080
ngttgaccca	accttaccag	ttggtttttc	atTTTTTgtc	cctttccctt	agatccagaa	1140
ataaagtnta	agagaagcgc	aaaaaaa				1167

<210> 176

<211> 205

<212> PRT

<213> Homo sapien

<220>

<221> VARIANT

<222> (1)...(205)

<223> Xaa = Any Amino Acid

<400> 176

```

Met Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp
 1      5      10      15
Val Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu
 20      25      30
Gly Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val
 35      40      45
Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Leu Leu Leu
 50      55      60
Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser
 65      70      75      80
Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly
 85      90      95
Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly Arg Met
100      105      110
Pro Thr Val Leu His Cys Val Asn Val Ser Val Val Ser Glu Xaa Val
115      120      125
Cys Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe Cys Ala
130      135      140
Gly Gly Gly Gln Asp Gln Lys Asp Ser Cys Asn Gly Asp Ser Gly Gly
145      150      155      160
Pro Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe Gly Lys
165      170      175
Ala Pro Cys Gly Gln Leu Gly Val Pro Gly Val Tyr Thr Asn Leu Cys
180      185      190
Lys Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Xaa Ser
195      200      205

```

<210> 177

<211> 1119

<212> DNA

<213> Homo sapien

<400> 177

```

gogcactcgc agccctggca ggcggcactg gtcattgaaa acgaattgtt ctgctcgggc 60
gtccctggtc atccgcagtg ggtgctgtca gccgcacact gtttccagaa clcctacacc 120
atcgggctgg ccctgcacag tcttgaggcc gaccaagagc cagggagcca gatggtagag 180
gccagccctc ccgtacggca cccagagtag aacagaccct tgcctcgtac cgcctcatg 240
ctcatcaagt tggacgaatc cgtgtccgag tctgacacca kccggagcat cagcattgct 300
tcgcagtccc ctaccggggg gaactcttgc ctggtttctg gctggggtct gctggcgaa 360
gatgctgtga ttgccatcca gtcccagact gggggagctc gggagtgtag gaagctttcc 420
caaccctggc aggggtgtac catttcggca acttccagtg caaggacgtc ctgctgcate 480
ctcacagggt gctcactact gctcactgca tcaaccggaa cactgtgatc aactagccag 540
caccatagtt ctccgaaglc aactatcatc gattactgtg ttgactgtgc tgtctattgt 600
actaaccatg ccgatgttta ggtgaaatta gcgtcacttg gcctcaacca tottggtatc 660
cagttatcct cactgeattg agatttcctg ctccagtgte agccattccc acataatttc 720
tgacctacag aggtgagggc tcatatagct ctccaaggat gctggfacte ccctacaaa 780
ttcattttct ctgttgtagt gaaaggtgag ccctctggag cctcccaggg tgggtgtgca 840
ggtcacaatg atgaatgtat gatcgtgttc ccattaccca aagcctttaa atccctcatg 900
ctcagtagac cagggcaggt ctacgatttc ttcatttagt gtatgctgtc cattcatgca 960
accacctcag gactcctgga ttctctgcct agttgagctc ctgcatgctg cctccttggg 1020
gaggtgaggg agagggccca tggttcaatg ggactctgtc agttgtaaca cattagglgc 1080
ttaataaaca gaagctgtga tgttaaaaaa aaaaaaaa 1119

```

<210> 178

<211> 164

<212> PRT

<213> Homo sapien

<220>
 <221> VARIANT
 <222> (1)...(164)
 <223> Xaa - Any Amino Acid

<400> 178
 Met Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp
 1 5 10 15
 Val Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu
 20 25 30
 Gly Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val
 35 40 45
 Glu Ala Ser Leu Ser Val Arg His Pro Gln Tyr Asn Arg Pro Leu Leu
 50 55 60
 Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser
 65 70 75 80
 Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly
 85 90 95
 Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Asp Ala Val
 100 105 110
 Ile Ala Ile Gln Ser Xaa Thr Val Gly Gly Trp Glu Cys Glu Lys Leu
 115 120 125
 Ser Gln Pro Trp Gln Gly Cys Thr Ile Ser Ala Thr Ser Ser Ala Arg
 130 135 140
 Thr Ser Cys Cys Ile Leu Thr Gly Cys Ser Leu Leu Leu Thr Ala Ser
 145 150 155 160
 Pro Gly Thr Leu

<210> 179
 <211> 250
 <212> DNA
 <213> Homo sapien

<400> 179
 ctggagtgcc ttggtgtttc aagcccttgc aggaagcaga atgcaccttc tgaggcacct 60
 ccagctgcc ccggccgggg gatgogagggc tcggagcacc ctgcccggc tgtgattgct 120
 gccaggcaact gttcatctca gctttctgt cctttgtct ccggcaagcg cttctgctga 180
 aagttcatat ctggagcctg atgtottaac gaataaaggt cccatgctcc aaccgaaaaa 240
 aaaaaaaaaa 250

<210> 180
 <211> 202
 <212> DNA
 <213> Homo sapien

<400> 180
 actagtccag tctggtggaa ttccattgtg ttgggcccac cacaatggct acctttaaca 60
 tcacncagac ccgcgcctg cccgtgcccc acgtgctgc taacgacagt atgatgctta 120
 ctctgtact cggaaactat ttttatgtas ttaatgtatg ctttcttgtt tataaatgcc 180
 tgatttssaa aaaaaaaaaa aa 202

<210> 181
 <211> 558
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(558)
 <223> n = A,T,C or G

```

<400> 181
tccytttgkt nagggtttkkg agacacccock agacctwaan ctgtgtcaca gaattcynqg      60
aatgttttagg cagtgctagt aatttcytcg taatgattct gttattactt tccnattct      120
ttattcctct ttcttctgaa gattaatgaa gttgaaaatt gaggtggata aatac000000      180
ggtagtgtga tagtataagt atctaagtgc agatgaaagt gtgttatata tatccattca      240
aaattatgca agtttagtaat tactcagggt taactaaatt actttaatat gctgttgaa0      300
ctactctgtt ccttgggctag aaaaaattat aaacaggact ttgttagttt gggaa00000      360
attgataata ttctatgttc taaaagttag gctataonta aattattaag aaatatggaw      420
ttttattccc aggaatatgg kgttcatttt atgaatatta csurggetag awgtwlgagt      480
aaaaycagtt ttggtwaata ygtwaatatg tcmtaataaa acaakgcttt gacttatttc      540
caaaaaaaa aaaaaaaa

```

```

<210> 182
<211> 479
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(479)
<223> n = A,T,C or G

```

```

<400> 182
acagggwttk grgatgcta agcccccrga rwtggttga tccaaccctg gcttwttttc      60
agaggggaaa atggggcccta gaagttacag mscatytagy tgggtgcgmtg gcacccctgg      120
ctcacacag astcccgagt agctgggact acaggcacac agtcaactgaa gcaggccctg      180
ttwgcaattc acgttgccac ctccaactta aacattcttc atatgtgatg tccttagtca      240
ctaaggttaa actttcccac ccagaaaagg caacttagnt aaatcttag agtacttica      300
tactmttcta agtctcttcc cagcctcact kkgagtccm cytggggggtt gataaggaant      360
ntctcttggc tttctcaata aartctctat ycatctcatg ttttaatttg taaggalera      420
awtgatgara aaattaaaat gttctggtty mactttaaaa 000000000 000000000      479

```

```

<210> 183
<211> 384
<212> DNA
<213> Homo sapien

```

```

<400> 183
aggcgggagc agaaqctaaa gccaaagccc aagaagagtg gcagtgccag cactgggtgc      60
aglcceqsla ccaataacag tgccagtgcc agtgccagca ccagtgggtg cticagtgc      120
ggtgccagcc tgaccgccac tctcacattt gggctcttcc ctggccttgg tggagctggt      180
gccagcacca gtggcagctc tgggtgcctgt ggtttctcct acaagtgaga ttttagatat      240
tgttaatcct gccagtcttt ctcttcaagc caggggtgat cctcagaaac ctactcaaca      300
cagcaactcta ggcagccact atcaatcaat tgaagttgac actctgcatt aratctattt      360
gccatttcaa aaaaaa0000 aaaa

```

```

<210> 184
<211> 496
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(496)
<223> n = A,T,C or G

```

```

<400> 184
accgaatttg gaccgctggc ttataagcga tcatgtyynt ccrgtatkae ctcaacgagc      60
aggagagelc agtclatacg ctgaagaaat ttgacccgat gggacaacag acctgctcag      120
ccatctctgc tgggttctcc ccagatgaca aatactctag acaccgaate acctcaaga      180
aacgcttcaa ggtgctcatg acccagcaac cgcgcctgtg cctctgaggg tcccttaaac      240
tgalgtcttt tctgccacct gttacccctc ggagactccg taacc00000 cttcggactg      300

```

tgagccctga	tgcctttttg	ccagccatac	tccttggcat	ccagtccttc	gtggcgattg	360
attatgcttg	tgtgagggca	tcctgggtgg	atcaccata	aaagggaacac	atttgaattt	420
ttttctcat	atcttaaat	actacmagaw	tattwmagaw	waatlgawt	gaataactst	480
taaaaaaaa	aaaaaa					496

<210> 185
 <211> 384
 <212> DNA
 <213> Homo sapien

<400> 185						
gctggtagcc	tatggcgkcg	cccacggagg	ggctcctgag	gccacggrac	agtgaattcc	60
caagtatcyt	ggcgagcgct	ttctaccgtc	cctacctgca	gatcttcggg	cagattcccc	120
aggaggscat	ggacgtggcc	ctcatggagc	acagcaactg	ytctgctggag	cccgcttct	180
gggcacaccc	tcttggggcc	caggcgggca	cctgctcttc	ccagtatgcc	aactggctgg	240
tgggtgctgt	cctgctcctc	ttcctgctcg	tggccaacat	cctgctggtc	aacttgcctc	300
ttgccatgtt	cagttacaca	ttcggcaaag	tacagggcaa	cagcgatctc	tactgggaag	360
ggcgagcggt	accgctcat	ccgg				384

<210> 186
 <211> 577
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(577)
 <223> n = A,T,C or G

<400> 186						
gagttagctc	ctccacaacc	ttgatgaggt	ogtctgcagt	ggcctctcgc	ttcataccgc	60
tnccatcgtc	atactgtagg	tttgcaccca	cytccctggca	tcttggggcg	gcntaatatt	120
ccaggaaact	ctcaatcaag	tcacogtoga	tgaacctgt	gggctgggtc	tgtcttccgc	180
tgggtgtgaa	aggatctccc	agaaggagtg	ctcgatcttc	cccacacttt	tgatgaattt	240
attgagtoga	ttctgcatgt	ccagcaggag	gttgtaccag	ctctctgaca	gtgaggtcac	300
cagccctatc	atgccgttga	mcgtgcogaa	garcacogag	ccttgtgtgg	gggkkgag	360
ctcacccaga	ttctgcatta	ccagagagcc	gtggcacaag	acattgacaa	actogcccag	420
gtggaaaaag	amcamctcc	ggargtqctn	gcugctcttc	gtcmgttgg	ggcagcgctw	480
tcctttttgac	acacaaacaa	gttaagggc	tttccagccc	ccagaaant	gtcatcatcc	540
aagetntcgc	acagcaactna	tccagLLagg	attaaat			577

<210> 187
 <211> 534
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(534)
 <223> n = A,T,C or G

<400> 187						
aacatcttcc	tgtataatgc	tgtgtaatat	cgatccgatn	ttgtctggtg	agaatycatw	60
actkggaaaa	gmaacattan	agcctggaca	ctgggtattaa	aattcacaa	atgcaacact	120
ttasacagtg	tgtcaatctn	ctcccyynac	tttgtcatca	ccagtctggg	aakaagggtc	180
tgccttatcc	acccctgtta	aaaggaccc	aaqcattttt	gattcaacat	cttttttttt	240
gacacaaagtc	cgaaadaagc	aaagqtaaac	agllatyaat	ttgttagcna	attcactttc	300
ttcatgggac	agcgccatyt	gatttcaaac	gcacattgca	laatattgag	cttygggagc	360
tgataattga	gcggaaagag	agcttttcta	cttcaaccag	cccaacccc	tttcatattg	420
ggatgttnac	naaagctwat	tctctwacag	atgggctgct	tttgaggcaa	ttcttctctg	480
aggclclccc	agtttattta	ccacttgcac	aagaaggcgt	tttcttcttc	aggc	534

<210> 188
 <211> 761
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1}...{761}
 <223> n = A,T,C or G

<400> 188
 agaaaccagt atctctnaaa acaacctctc ataccttgty gacctaatTT tgtgtgogtg 60
 tgtgtgtgog cgcataattat atagacaggo acatcttttt tactttttgt aaegettatg 120
 cctcttttgg atctatatct gtgaaagttt taatgatctg ccataaatgtc ttggggacct 180
 ttgtctttctg tgtaaatggt actagagaaa acacctatnt tatgagtcac tctegttngt 240
 ttatttogac atgaaggaaa ttctcagatn caaacacina caaacctctcc clkgackarg 300
 ggggacaaaag aaaaagcaaaa ctgancatad caaacactwa cctgggtgag arttgcatae 360
 acagaaatwr ggtagtatat tgaarnacag catcattlaa rmgttwkkt wttctccctt 420
 gcaaaaaaca tgtacngact tcccgttgag laatgccaaq ttgttttttt tatnataaaa 480
 cttguccttc attacatggt tnaaagtggg gtgggtgggc aaaatattga aatgatggaa 540
 ctgactgate aagctgtaca aalaagcagt gtgcctaaca agcaacacag taatgttgac 600
 atgcttaatt cacaaatgct aatttcatta taaatgtttg ctaaaataca ctttgaacta 660
 tttttctgtn tccccagagc tgagatntta gattttatgt agtatnaagt gaaaaantac 720
 gaaaalaata accttgagga aaananaaaa aaanaaaaaa a 761

<210> 189
 <211> 482
 <212> UNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1}...{482}
 <223> n = A,T,C or G

<400> 189
 tttttttttt ttgtccgatn ctactatttt attgeaggan gtgggggtgt atgcaccgca 60
 caccggggct atnagaagca agaagggaagg agggagggca cagcccttg ctgagcaaca 120
 aagccgcctg ctgccttctc tgtctgtctc ctgggtgcagg cacatgggga gaacttcccc 180
 aaggcagggg ccaccagtcc aggggtggga atacaggggg tgggagtgt gcataagaag 240
 tgataggcac aggccacccg gtacagaccc ctgggtctct gacaggtnga ttccgaccag 300
 gtcatgtgtc cctgccacag cacagcgtan atctggaaaa gacagaatgc ttctcttttc 360
 aaatttggt ngtcatngaa ngggcanctt tccaanttng gctnggtctt ggtacncttg 420
 gttcggccca gctccnctg caaaaantat tcacccnct ccnaattgct tgcnggnucc 480
 cc 482

<210> 190
 <211> 471
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1}...{471}
 <223> n = A,T,C or G

<400> 190
 tttttttttt ttttaaaaca gtttttcaca acaaaattta ttagaagaat agtggttttg 60
 aaactctctg catccagtga gaactaccat acaccacatt acagctngga atgtncctca 120
 aatgtctggt caaatgatac aatggaacca ttcaatttta cacatgcacg aaagaacaag 180
 cgtttttgac atacaatgca caaaaaaaa aggggggggg gaccacatgg attaaaattt 240
 taagtactca tcacatacat taagacacag ttctagtcca gtcnaaaatc agaactgctt 300

tgaaaaatttt	catgtatgca	atcccccacaa	agaacttnat	tggtgatcat	gantncttta	360
ctacatcnac	cttgatcatt	gccagggaacn	asaagtttaa	ancacnongt	acaaaaanaa	420
tctgtaattn	anttcaacct	ccgtccngaa	aatnttntnt	tatacactcc	c	471

<210> 191
 <211> 402
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(402)
 <223> n = A,T,C or G

<400> 191						
gagggattga	aggctctgttc	taatgtcggm	ctgttcagcc	accacatota	acaagttgct	60
gtcttccact	cactgtctgt	aagcttttta	acccagacwg	tatcttcala	aatagaacaa	120
attcttcacc	agtcacatct	tctaggacct	ttttggattc	agttagtata	agctcttcca	180
cttcttttgt	taagacttca	tctggtaazg	tcttaagttt	lqlagaaggg	aettyaattg	240
ctcgttctct	aacaatgtcc	tctccttgau	gtatttggct	gaacaaccca	cctaaagtcc	300
ctttgtgcat	ccatttttaa	tatacttaat	agggaaltgk	lncaactaggt	taattctctg	360
aagagtcatt	tgtctgcaaa	agttgcgtta	gtatctctgc	ca		402

<210> 192
 <211> 601
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(601)
 <223> n = A,T,C or G

<400> 192						
gagctcggat	ccaataatct	ttgtctgagg	gcagacacaa	LaIncagtcg	catggnaact	60
ggtctacccc	acatgggagc	agcatgcugt	agntatataa	ggtcattccc	tgagtcagac	120
atgcytyttt	gaytaccgtg	tqccaaagtgc	lgggtgaltct	yaacacacyt	ccatcccgyt	180
ctttctgtga	aanactggcc	cttkctctga	actagcarga	catcaattac	aaattcacc	240
acgagacact	tgaagggtgt	accaaagcga	ytcttgcat	gctttttgtc	cctccggcac	300
caqttgtcaa	tactaacccg	ctggtttgcc	tccatcacat	ttgtgatctg	tagctctgga	360
tacatctcct	gacagtcctg	aagaacttct	tcttttggtt	caaaagcacc	tcttggtgcc	420
tgltggalca	ggttcccatt	tcccagtcyg	aatgttcaca	tggcatattt	naattccacc	480
aaaacattgc	gatttgaggc	tcagcaacag	caaatccgtg	tccggcattg	gctgcaagag	540
actcgatgta	gccggccagc	gccaaaggcag	gcgccttgag	ccccaccagc	agcagaaayca	600
g						601

<210> 193
 <211> 608
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(608)
 <223> n = A,T,C or G

<400> 193						
atacagccca	natuccacca	cgaagatgcg	cttgttgact	gagaacctga	tgcggtcact	60
ggtcccgtctg	tagcccagc	gactctccar	ctgctggaag	cggttgatgc	tgcactcytt	120
cccaacgcag	gcagmagcgg	gscgggtcaa	tgaactccay	togtggcttg	gggtkgacgg	180
tkaagtgcag	gaagaggctg	accacctcgc	ggtoaccag	gatgcccgac	tgtgcgggac	240
ctgcagcga	actcctcgat	ggtcatgagc	gggaagcgaa	tgaggcccag	ggccttgccc	300

64

```

agaaccttcc gactgttctc tggcgctcacc tgcagctgct gccgctgaca ctgggcctcg      360
gaccagcggg caaacgggct tgaacagccg caactcacgg atgcccagtg tctcgcgctc      420
caggammgsc accagcgtgt ccaggctaat gtgcgtgaaq cccctcgcgg gtataggcgt      480
ctgcagtgtt tttgtcgatg ttctccaggg acaggctggc cagctgcggc tcctcgaaga      540
gtcgcgccctg cgtgagcagc atgaaggcgt tglcggcctcg cagttcttct tcagggaactc      600
cacgcaat                                         608

```

```

<210> 194
<211> 392
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1) ... (392)
<223> n = A,T,C or G

```

```

<400> 194
gaacggctgg acccttgctc gcattgtgct tgcctggcagg gaataccttg gcaagcagyt      60
cagctccgag cagcccraga ccgctgcgcg ccgaagctaa gcctgcctct ggccctcccc      120
tccgcctcaa tgcagaacca gtagtgggag cactgtgttt agagttaaga gtgaacactg      180
tttgatttta ctgggaatt tccctgttta tatagctttt cccaatgcta atttccauac      240
aacaacaaca aaataacatg ttgacctgtt aagttgtata aaagttagtg attctgtatt      300
taaagaaaat attactgtta catatactgc ttgcaatttc tgtattttatt gktncsttgg      360
aaataaatat agttattaaa ggttgtcant cc                                         392

```

```

<210> 195
<211> 502
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1) ... (502)
<223> n = A,T,C or G

```

```

<400> 195
ccattkgagg ggtkaggkyc cagttycoga gtggaagaaa caggucaggc gaaagtgcctg      60
ccgagctgag gcagatgttc ccacagtga cccagagccc slggggtata gtytctgccc      120
cctcncaagg aaagaccaca ttctggggac atgggclqga gggcaggacc lagaggcacc      180
aagggaaggc cccattccgg gggtgttccc cggggaggga ggggaagggc tctgtgtgcc      240
ccccagagg aagaggccct gagtccctgg atcagacccc ccttcacgtg tatccccaca      300
caaatgcaag ctacccaagg tccccctcga gtccccttcc atcacacctg amcgggccact      360
gaoscacacc cacccagayc acgccacccc ccatggggar tgtgctcaag gartcgcnng      420
gcarcgtgga catctnglcc cagaaggggg cagaatctcc aatagangga ctgarcmatt      480
gctnnaaaaa aaaaaaasaa aa                                         502

```

```

<210> 196
<211> 665
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1) ... (665)
<223> n = A,T,C or G

```

```

<400> 196
ggttaacttg tttcattgac accacttaql ggetgtcALL tagaaccatt lctgtctgctc      60
cctctggaag ccttgccgag agcggacttt gtaactgttg gagaataact gctgaatttt      120
wagctgtttk gatttgatts gcaccactgc acccacaact tcaatatgaa aacyawttga      180
actwatttat tatctgttga aaytataaac aatgaaaatt ttgttcatac tgtattkac      240

```

```

aagtatgatg aaaagcaawa gatatatatt cttttattat gttaaattat gattggcatt      300
attaatcggc aaatgttga gtgtatgttc ttttcacagt aatatatgcc ttttgtaact      360
toacttgggtt attttattgt aaatgarita caaatctctt aatttaagar aatgggtatgt      420
watattttatt tcattaattt ctttcoctkg ttaogtwaat ttgaaaaga wtgcagtatt      480
tcttgacaga aatcgatctt gatgctgtgg aagtagtttg acccacatcc ctatgagttt      540
ttottagaat gtataaagggt tgtagcccat cnaacttcaa agaaaaaat gaccacatac      600
tttgcaatca ggctgaaatg tggcatgctn ttctaattcc aactttataa actagcaaan      660
aagtg

```

<210> 197

<211> 492

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}...{492}

<223> n = A, T, C or G

<400> 197

```

ttttnttllt ttttttttgc aggaaggatt ccattttattg tggatgcatt ttcacaatat      60
atgtttattg gagcgatcca ttatcagtga aaagtatcaa gtgtttataa natttttagg      120
aaggcagatt cacagaacat gctngtcngc ttgcagtttt acctcgtaaa gatnacagag      180
aatttatgtc naaccagtaa acnagggaatt tacttttcaa aagattaaat ccaaaactgaa      240
caaaattcta cctgaaact tactccatcc aaatatgtga ataanagtca gcagtgatcc      300
attctcttct gaactttaga ttttctagaa aaatatgtaa tagtgatcag gaagagctct      360
tgttcaaaaag tacaacnaag caatgttccc ttaccatagg cottaattca aactttgatc      420
catttcactc ccatacaggg agtcaatgct acctgggaca cttgtatttt gttcatnctg      480
ancntggctt aa

```

<210> 198

<211> 478

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}...{478}

<223> n = A, T, C or G

<400> 198

```

ttntttttgn atttcantct gtannaanta ttttcattat gtttattana aaatatnaa      60
tgtntccacn acaaatcatn ttacntnagt aagaggccan ctacattgta caacatacac      120
tgagtatatt ttgaaaagga caagttttaa gtanacncat attgccganc atanacatt      180
tatacatggc ttguttgata tttagocacg cnaaaactga gtgagttacc agaaaawael      240
natatatgtc autcmgattt aagatacaaa acagatccta lqgtavatan catontgleq      300
gagttgtggc lltatgttta ctgaaagtcg atgcagttcc tgtacaaaga galggccgtg      360
agcattctag tacctctact ccattggttaa gaatcgtaaa ctlatgttta catatgtaca      420
gggtwagaat tgtgllaagt nsanttatgg agaggtccan gagaaaaalt tgatncaa      478

```

<210> 199

<211> 482

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}...{482}

<223> n = A, T, C or G

<400> 199

```

agtgacttgt cctccaacaa aacccttga tcaagtttgt ggcactgaca atcagacctg      60

```

66

tgctagttcc	tgtcatctat	tcgtacttaa	atgcagactg	gaggggacca	aaaaggggca	120
tcaactccag	ctggattatt	ttggagcctg	caaatctatt	cttacttgta	cggactttga	180
agtgattcag	tttctcttac	ggatgagaga	ctggctcaag	aatatcctca	tgcagcttta	240
tgaagccnac	tctgaacacg	ctggttatct	nagatgagaa	ncagagaaat	aaagtcnaga	300
aaatttacct	ggangaaaag	aggetttngg	ctggggacca	tccattgaa	ccttctctta	360
anggacttta	agaanaaaact	accacatgtn	tgtngtatcc	tgggtgccngg	ccgtttantg	420
asctnngacn	ncacccttnt	ggaatanant	cttgacngcn	tcctgaactt	gctcctctgc	480
ga						482

<210> 200
 <211> 270
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(270)
 <223> n = A, T, C or G

cgcccgcaag	tgcactcca	gtcggggccg	tgcggagcaa	gattctgcca	gcagttggtc	60
cgactcgac	gcggcgggcg	gcgacagtcg	caggtgcagc	gcgggcgcct	gyggtcttgc	120
aaqgctggc	tgaagcccca	gaggtcgtgt	caqctcccac	gaccttgacg	ccgtcgggga	180
cagccgggac	agagcccggt	gaangcggga	ggcctcgggg	agcgcctcgg	gaaggggggc	240
ccgagagata	cgcaggtgca	ggtggccgcc				270

<210> 201
 <211> 419
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(419)
 <223> n = A, T, C or G

tttttttttt	ttttggaatc	tactgcgagc	acagcaggc	agcaacaaat	ttatttttga	60
gctagcaagg	taccagggtg	gggcatgggt	acatgttcag	gtcaacttcc	tttgctcglg	120
ttgattgggt	tgtctttatg	ggggcggggt	ggggtagggg	aaancgaagc	anaantaaac	180
tggagtgggt	gcacccctcc	tgtagaaact	ggttacnaas	gcttggggca	gttcacctgg	240
tctgtgaccg	tcattttctt	gacatcaatg	ttattagaag	tcaggatata	ttttagagag	300
tccactgtnt	ctggaggggg	attagggttt	cttgccaana	tccaancaaa	atccacntga	360
aaaagtttga	tgatncaagt	acngaatacc	ganggcatan	ttctcatant	cggtggcca	419

<210> 202
 <211> 509
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(509)
 <223> n = A, T, C or G

tttttttttt	tttttttttt	tttttttttt	tttLtttttt	tttttttttt	tttttttttt	60
tggacattaa	tccattttta	tttcaaaatg	tctacaaant	tttaaatnnc	cattatacng	120
gttatatttnc	aaaatctaaa	onttattcaa	atntnagcra	aaatccttcc	ncaaatnnaa	180
tacnncnaaa	aatcaaaaat	atacntntct	ttcagcaaac	ttngttacat	aaetttaaoo	240
aatatatacg	gctggtgttt	tcaaagtaca	attatcttaa	caatgcacaa	atnttttnaa	300
ggaactaaaa	taaaaaaaaa	cactnccgca	aaggttaaaq	ggaacaacaa	attcntttta	360


```

caacancnnc nattataaaa atcatatctc aaatcttagg ggaatataata cttcacacng 420
ggatcttaac ttttactnca ctttgtttat ttttttanaa ccattgtntt. gggcccaaca 480
caatgnaat nccnccnnc tggactagt 509

```

```

<210> 203
<211> 583
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(583)
<223> n = A,T,C or G

```

```

<400> 203
tttltttttt ttttttttga ccccccctct ataaaaaaca agttaccatt ttattttact 60
tacacatatt ttttttataa ttggtattag atattcaaaa ggcagctttt aaaatcaaac 120
taaattgaaa ctgccttaga tacataattc ttaggaatta gcttaaaatc tgcctaaagt 180
gaaaatcttc tctagctctt ttgactgtaa atttttgact cttgtaaaac atccaaattc 240
atttttcttg tctttaaaat tatctaattt ttccattttt tccctattcc aagtoaat 300
gttctcttag cctcatcttc tagctcttat ctactattag taagtggctt ttttctaaa 360
agggaaaaca ggaagagana atggcacaca aaacaaacat tttatattca ttttctacc 420
tacgttaata aaatagcatt ttgtgaagcc agctcaaaag aaggcttaga tccctttatg 480
tccatttttag tcaactaaacg atatcnaaag tgcacgaatg caaaaaggtt gtgaaacatt 540
attcaaaagc taatataaga ttttcaaat cttcalcttt ctg 583

```

```

<210> 204
<211> 589
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(589)
<223> n = A,T,C or G

```

```

<400> 204
ttttttttnt tttttttttt ttttttnctt ttcttttttt ttganaatga ggatcgagtt 60
tttcaactct tagatagggc atgaagaaa clcatcttcc cagctttaa alaaacaatca 120
aatctcttat gctatctcat attltcaaglt aaactaatga gtcactggct tatcttctcc 180
tgaaggaaat ctgttcaatc ttctcattca tatcgtlate tcaagtacta ccttgcatat 240
tgaaggllt tloctctcta tttcacaca tatttccatg tgaatttgta tcaaaccttt 300
attltcaatgc aaactagaas ataagtntt cttttgcata agagaagaga acaatatnag 360
cattcaaaa ctgctcaaat tgtttgttaa gnttatccat tataattagt tnggcaggag 420
ctaatacaaa tcacatttac ngacnagcaa taataaaact gaagtaccag ttaaatatcc 480
aaaataatta aaggaacatt tttagcctgg gtataattag ctaattcact ttacaagcat 540
ttattnagaa tgaattcaca tgttattatt ccttagccca acacaatgg 589

```

```

<210> 205
<211> 545
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(545)
<223> n = A,T,C or G

```

```

<400> 205
tttttttttt lttttttcagt aataatcaqa araatattta tttltatatt taaaallcat 60
agaaaagtgc cttacattta ataaaagttt glltctcaas gtgatcagag gaattageta 120
tngtcttqaa ccccaatatt aatttgagga aatatacca aatatatta agtaaatat 180

```

ttaagatcat	agagcttgta	agtgaanaga	taaaatttga	cctcagaaac	tctgagcatt	240
asaaatccac	tattagcaaa	taaattacta	tggacttctt	gcttteattt	tgtgatgaat	300
atgggggtgc	actggtaaac	caacacattc	tgaaggctac	attacttagt	galagattct	360
tatgtacttt	gctanatnac	gtggatataa	gttgacaaat	ttctctttct	tcactctttt	420
asggggcnga	ngaaatgagg	aagaaaaaga	asggattacg	catactgttc	tttctatnng	480
aaggattaga	tatgtttcct	ttgccaatal	taaaaaala	atsatgttta	ctactagtga	540
asccc						545

<210> 206

<211> 487

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(487)

<223> n = A,T,C or G

<400> 206

tttttttttt	tttttagtc	aagttttctna	tttttattat	aattaaagtc	ttggtcattt	60
catttattag	ctctgcaact	tacatattta	aattaaagaa	acgttnttag	acaactgtna	120
caatttataa	atgtaagggtg	ccattattga	gtanatatat	tcctccaaag	gtggatgtgt	180
cccttctccc	accaactaat	gaancagcaa	cattagttta	attttattag	tagalnatac	240
actgctgcaa	acgttaattc	tcctctccat	ccccatgtng	atattglgtg	latgtgtgag	300
ttggtnagaa	tgcatacanca	atctnacaat	caacagcaag	aiqaagctag	gcntgggctt	360
tcggtgaaaa	tagactgtgt	ctgtctgaat	caaatgatct	gacctatcct	cgggtggcaag	420
aactcttoga	accgcttccct	caaaggcngc	tgcacacattt	gtggcctctn	ttgcacttgt	480
ttcaaaa						487

<210> 207

<211> 332

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(332)

<223> n = A,T,C or G

<400> 207

tgaattggct	aaagactgc	atttttanaa	ctagcaactc	ttatttcttt	cccttaaaaa	60
tacataguat	taaatcccaa	atcctattta	aagacctgac	agcttgagaa	ggcactact	120
gcattttatg	gacctctctg	tggtttctgt	gttacttttg	aantctgaca	atccttgana	180
atctttgcat	gcagaggagg	taaaaggtat	tggattttca	cagagggaana	acacagcgca	240
gaaatgaagg	ggccaggctt	actgagcttg	tcactggag	ggctcatggg	tgggacatgg	300
aaaggaaggc	agcctaggcc	ctggggagcc	ca			332

<210> 208

<211> 524

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(524)

<223> n = A,T,C or G

<400> 208

agggcggtgt	ggggaggagc	ttactqlttt	gtctcagtaa	caataaatac	aaaaagactg	60
gttgtgttcc	qccccatcc	aaccacgaag	ttgatttctc	ttgtgtgcag	agtgactgat	120
tttaaaagac	atggaggttg	tcacaatgtc	acaatgtcac	agtgtgaagg	gcacactcac	180
tcccgcqlqa	ttcacattta	gcaaccaaca	atagctcatg	agtccatact	tgtaaatact	240

tttggcagaa	tacttnttga	aacttgcaga	tgataactaa	gatccaagat	atttcccaaa	300
gtaaatagaa	gtgggtcata	atatttaatta	cctgttcaca	tcagcttcca	tttacaagtc	360
atgagcccag	acactgacat	caaactaagc	ccacttagac	tccctaccac	cagtctgtcc	420
tgtcatcaga	caggaggctg	tcaccttgac	caaattctca	ccagtcacac	atctatccaa	480
aaaccattac	ctgatccact	tccggtatg	caccacettg	giga		524

<210> 209

<211> 159

<212> DNA

<213> Homo sapien

<400> 209

gggtgaggaa	atccagagtt	gccatggaga	aaattccagt	gtcagcaltc	ttgtcccttg	60
tggccctctc	ctacactctg	gccagagata	ccacagtcaa	acctggagcc	aaaaaggaca	120
caaaaggactc	tcgacccaaa	ctgccccaga	ccctctcca			159

<210> 210

<211> 256

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(256)

<223> n = A,T,C or G

<400> 210

actccctggc	agacaaaagg	agagggagag	gctctgttag	lletgtgttg	ttgaactgcc	60
actgaalile	tttccacttg	gactattaca	tgcanttga	gggactaatg	gaaaaacgta	120
tggggagall	ttanccaatl	langtntgta	aatggggaga	ctggggcagg	cgggagagel	180
ttgcagggtg	naaatgggan	ggctgggttg	tlanatgaac	agggacatag	gaggtaggca	240
ccaggatgct	aatca					256

<210> 211

<211> 264

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(264)

<223> n = A,T,C or G

<400> 211

acattgtttt	tttgagataa	agcattgaga	gagctctcct	taacgtgaca	caatgggaagg	60
actggaacac	atacccacat	ctttgttctg	agggataatt	ttctgataaa	gtcttgctgt	120
atattcaagc	acatatgtta	tatattattc	agttccatgt	ttatagccta	gttaaggaga	180
ggggagatac	attongaaag	aggactgaaa	gaaatactca	agtnggaaaa	cagaaaaaga	240
aaaaaaggag	caaatgagaa	gcct				264

<210> 212

<211> 328

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(328)

<223> n = A,T,C or G

<400> 212

acccaaaaat	ccaatgctga	atatttgggt	tcattattcc	canattcttt	gattglcaaa	60
------------	------------	------------	------------	------------	------------	----

ggattttaatg	ttgtctcagc	ttgggcactt	cagttaggac	ctaaggatgc	cagccggcag	120
gtttatatat	gcagcaacaa	tattcaagcg	cgacaacagg	ttattgaact	tgcccgccag	180
ttnaatttca	ttcccattga	cttgggatcc	ttatcatcag	ccagagagat	tgaaaattta	240
ccoctaenac	tctttactct	ctgganaggg	ccagtgggtg	tagctataag	cttggccaca	300
tttttttttc	ctttattcct	ttgtcaga				328

<210> 213
 <211> 250
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(250)
 <223> n = A,T,C or G

<400> 213	
acttatgagc	agagcgacat
atacnaagtgt	agactgaata
aaactgaatt	ctctccagtt
taaagcattg	ctcactgaag
ggatagaagt	gactgccagg
agggaaagta	agccaaggct
cattatgcca	aagganatat
acatttcaat	tctccaaact
tcttctcat	tccaagagtt
ttcaatattt	gcatgaacct
gctgataanc	catgttaana
aacaaatata	tctctnacct
tctcatcggt	

<210> 214
 <211> 444
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(444)
 <223> n = A,T,C or G

<400> 214	
accagaata	caatgctgaa
tatttggett	cattattccc
agattctttg	attgtcaaag
gatttaatgt	tgtctcagct
tgggcacttc	agttaggacc
taaggatgcc	agccggcagg
tttatatatg	cagcaacaat
attcaagcgc	gacaacagg
tattgaactt	gcccggccagt
tgaatttcat	tcccattgac
ttgggatcc	tatcatcagc
canagagatt	gaaaatttac
ccctaagact	cttfactctc
tgagaggggc	cagtgggtgt
agctataagc	ttggccacat
ttttttttcc	ttttattcct
tgtcagagat	gcgattcata
catatgctan	aaaccaacag
agtgactttt	acaaaattcc
tataganatt	gtgaataaaa
ccttacctat	agttgccatt
actttgctct	ccctaataata
cctc	

<210> 215
 <211> 366
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(366)
 <223> n = A,T,C or G

<400> 215	
acttatgagc	agagcgacat
atacnaagtgt	anactgaata
aaactgaatt	ctctccagtt
taaagcattg	ctcactgaag
ggatagaagt	gactgccagg
agggaaagta	agccaaggct
cattatgcca	aagganatat
acatttcaat	tctccaaact
tcttctcat	tccaagagtt
ttcaatattt	gcatgaacct
gctgataagc	catgttgaga
aacaaatata	tctctgacct
tctcatcggt	aagcagaggc
tgtaggcaac	atggaccata
gogaanaaaa	aacttagtaa
tccaagctgt	tttctacact
gtaaccagggt	ttccaaccaa
ggtgganato	tctataactt
ggtgcc	

<210> 216
 <211> 260
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(260)
 <223> n = A,T,C or G

<400> 216
 ctgtataaac agaactccac tgcangaggg agggccgggc caggagaact cccgcttctc 60
 caagacaggg gactaaggag ggtctccaca ctgclnntaa gggctnttnc atttctttat 120
 taataaaaag tnnaaaaggg ctcttclcaa cttttttccc tngggclggg aaatctaaaa 180
 atcaaaaatt tcttnaagtl ntpaagctat cctatctact ntatcctgaa aaagcaaat 240
 aattcttctt tccctcttct 260

<210> 217
 <211> 262
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(262)
 <223> n = A,T,C or G

<400> 217
 acctacgtgg gtaagtttan aaatgttata atttcaggaa naggaaacgca tataattgtc 60
 tcttgccctc attttctctt tttaataagg aaatagcaaa ttgggggtgg gggaaagtag 120
 ggcattctac agtttgagca aaatgcaatt aaatgtggaa ggacagcact gaaaaatttt 180
 atgaataatc tgtatgattc tctgctctca gagtagattt ataattagcc acttacccta 240
 atctcttcca tgccttgtaa gt 262

<210> 218
 <211> 205
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(205)
 <223> n = A,T,C or G

<400> 218
 aaccaaggtg tgcattaccg gaantggatc aangaaccca tcttgggcaa cccctgagca 60
 cccclatcaa ctcccltttg taglaaactt ggaaccltgg aaatgaccag gccaaagactc 120
 aggcctccc agttctactg acctttgtcc ttangtntna nglccagggt tcttaggaaa 180
 anaaatcagc agacacaggt gtaaa 205

<210> 219
 <211> 114
 <212> DNA
 <213> Homo sapien

<400> 219
 tactgttttg tctcagtaac aataaataca aaaagactgg ttgtgttccg gcccacatca 60
 accacgaagt tgatttctct tgtgtgcaga gtgactgatt ttaaaggaca tgga 114

<210> 220
 <211> 93
 <212> DNA

<213> Homo sapien

<400> 220

actagccagc	acaaaaggca	gggtagcutg	aattgotttc	tgtcttttac	atttccltta	60
aaataagcat	ttagtgctca	gtccctactg	agt			93

<210> 221

<211> 167

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}... (167)

<223> n = A,T,C or G

<400> 221

actangtgca	ggtagcgaca	aatatttgtc	gatattccct	tcattcttga	ttccatgagg	60
tcttttgccc	agcctgtggc	tctactgtag	taagtttctg	ctgatgagga	gccagnatgc	120
ccccactac	cttccctgac	gtcccccana	aatcacccaa	cctctgt		167

<210> 222

<211> 351

<212> DNA

<213> Homo sapien

<400> 222

agggcgtggt	goggagggcg	gtactgacut	cattagtagg	aggatgcatt	ctggcaccoc	60
gttcttcacc	tgtcccccac	tccttaaaaq	gccatctcgc	ataaagtcac	caacagctaa	120
atgttttctg	aatataaggga	tggttgaaaa	aaatttaata	tgaalltttg	cataatccaa	180
ttttctcttt	tatatctcta	gaagaagttt	ctttgagcct	attagatccc	gggaatcttt	240
taggtgagca	tgattagaga	gcttgtaggt	tgtttttaca	tatatctggc	atatitgagt	300
ctcgtatcaa	aacaatagat	tggtaaaggt	ggtattattg	tattgataag	t	351

<210> 223

<211> 383

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}... (383)

<223> n = A,T,C or G

<400> 223

aaaaaagaaa	aaacaaaaaa	acaattcttc	atracgaaaa	attatcttag	ggactgatat	60
tggtaallat	ggtaaattta	atwrtttkt	ggggcatttc	cttacattgt	cttgacaaga	120
ttaaaatgtc	tgtgccaaaa	ttttgtattt	tatttgagga	cttcttatca	aaagtaatgc	180
lgccaaagga	agtctaagga	attagtagtg	ttcccmteac	ttgtttggag	tgtgctattc	240
taaaagattt	tgatttcctg	gaatgacaat	tatatattta	ctttgggtgg	ggaaanagtt	300
ataggaccac	agtcttcaat	totgatactt	gtaaattaat	cttttattgc	acttgttttg	360
accattaagc	tatatgttta	aaa				383

<210> 224

<211> 320

<212> DNA

<213> Homo sapien

<400> 224

ccctgaagg	cttcttggtt	gaaaatagta	cagttacaa	caataggaac	aaacaaaaga	60
aaaagtttgt	gacattgtag	tagggagtg	gtacccctta	ctccccatca	aaaaaaaat	120
ggatacatgg	ttaaaggata	raagggcatt	atlllatcat	atgltctaaa	aggggaaggaa	180

gagaaantac	tactttctcr	aaatggaagc	ccttaaaggc	gctttgatac	tgaaggacac	240
aaatgtggcc	gtccatccctc	ccttaragtt	gcctgacttg	gacacggtaa	ctgttgcaqt	300
tttaractcm	gcattgtgac					320

<210> 225
 <211> 1214
 <212> DNA
 <213> Homo sapien

<400> 225						
gaggactgca	gcocgcactc	gcagcccttg	caggcggcac	tggctcatgga	aaacgaattg	60
ttctgctcgg	gcgtcctggg	gcataccgag	tgggtgctgt	cagccgcaca	ctgtttccag	120
aactnctaca	ccatcgggct	gggcctgcac	agtccttgagg	ccgaccaaga	gccagggagc	180
cagatgggtg	agggcagcct	ctccgtacgg	cacccagagt	acaacagacc	cttgctcgct	240
aacgacctca	tgctcatcaa	gttggacgaa	tccgtgtccg	agtctgacac	catccggagc	300
atcagcattg	cttcgcagtg	ccctaccggg	gggaactctt	gcctcgtttc	tggctggggg	360
ctgctggcga	acggcagaat	gcctaccgtg	ctgcagtgcg	tgaacgtgtc	gggtggtgtct	420
gaggaggtct	gcagtaagct	ctatgacccg	ctgtaccacc	ccagcatgtt	ctgcgcgggc	480
ggagggcaag	accagaagga	ctcctgcaac	gggtgactctg	gggggcccct	gatctgcaac	540
gggtacttgc	agggccttgt	gtctttcgga	aaagccccgt	gtggccaagt	tggcgtgcca	600
gggtgtctaca	caaactctctg	caaatctact	gagtggatag	agaaaacagt	ccaggccagt	660
taactctggg	gactgggaac	ccatgaaatt	gacccccaaa	tacatcctgc	ggaagggaatt	720
cagggaatatc	tgttccacagc	ccctcctccc	tcaggccccag	gagtccaggc	ccccagcccc	780
tctcctctca	aaccaagggt	acagatcccc	agccccctct	ccttcagacc	caggagtcca	840
gacccccag	ccctcctccc	ctcagaccca	ggagctccagc	ccctcctccc	tcagacccag	900
gagtccagac	ccccagcccc	ctcctcctcc	agaccccgag	gtccaggccc	ccaaacccctc	960
ctcctcagca	ctcagaggtc	caagcccccc	acccccctct	ccccagaccc	agaggtccag	1020
gtcccaqccc	ctcctcctcc	agacccagcg	gtcccaatgac	acnlagactc	tcctctgaca	1080
cagtgccccc	ttgtgggaag	lgaacccaac	cttaccagtt	ggtttttcat	tttttctccc	1140
tttccctctag	alcagagaat	aaagtctaa	agaagcgcaa	aaaaaaasee	aaaaaaaaaa	1200
aaaaaaaaaa	aaaa					1214

<210> 226
 <211> 119
 <212> DNA
 <213> Homo sapien

<400> 226						
accuagtatg	tgacgqaga	cgggaaccccc	tgtgacagcc	cactccacca	gggttcccaa	60
agaacllqgc	ccagtcataa	tcaatcactc	tgacagtgcc	aataatcaag	alaaccagt	119

<210> 227
 <211> 818
 <212> DNA
 <213> Homo sapien

<400> 227						
acaattcata	gggacgaca	atgaggacag	ggaatgaacc	cggtctctcc	ccagccctga	60
tttttgctac	atattgggtc	ccttttcaat	ctttgcaaaa	acactgggtt	ttctgagaa	120
acggacgggt	cttagcaca	tttttgaaat	ctgtgtaraa	ccgggctttg	caggggagat	180
aattttcctc	ctctggagga	aaggttggtg	ttgacaggca	gggagacagt	gacaaggcta	240
gagaaagcca	cgtctggcct	tctctgaacc	aggatggaac	ggcagacccc	ggcaaacgaa	300
gcttgctccc	ttccaatcag	ccacttctga	gaacccccat	ctaacttctc	actggaaaag	360
agggcctcct	caggagcagt	ccaagagttt	tcaagataaa	cgtgacaact	accatctaga	420
ggaaagggtg	cuccctcagc	agagaaagcc	agagcttaac	tctggtcgtt	tccagagaca	480
acctgctggc	tgctctggga	tgcgccccag	ctttgagagg	ccactacccc	atgaacttct	540
gccatccact	ggauatgaag	ctgaggaacc	tgggcttcaa	caactgaqlt	tcatgagagg	600
gacaggctct	gcuctcagc	cggclgaggg	cagcaaccac	lctcctccuc	lttctcagc	660
aaagcuatle	cccaaalcc	agacatacc	atgaagccac	gagaccccaa	cagtillygt	720
caagaggala	tgaggactgt	ctcagcctgg	ctttgggctg	acaccatgca	cacacaaag	780
gtccacttct	aggtttccag	cctagatggg	agtcgtgt			818

74

<210> 228
 <211> 744
 <212> DNA
 <213> Homo sapien

<400> 228
 actggagaca ctgttgaact tgatcaagac ccagaccacc ccaggctctcc ttctgtgggat 60
 gtcatgaagt ttgacatacc tttggaacga gcctcctcct tggagagatgg aagaccgtgt 120
 tctgtgcoga cctggcctct cctggcctgt ttcttaagat gggagatcac atttcaatgg 180
 taggaaaagt ggcttcgtaa aatagaagag cagtcactgt ggaactacca aatggcgaga 240
 tgetcggtyc acattggggc gctttgggat aaaagattta tgagccaact attctctggc 300
 accagattct aggcagttt gtccactga agcttttccc acagcagtc accctctgcg 360
 gctggcagct gaatggcttg ccggtggctc tgtggcaaga tcacautgag atcagatggt 420
 gagaaggcta ggatgcttg ctagtgttct tagctgtcac gttggctcct tcacagtttg 480
 ccagacgggt ttggccaact ccttctaaaa cacaggugcc ctcctgggtg cagtgcctcg 540
 ccgtggatg ccttggccca ttccagcagt cccagttatg catttcaagt ttggggcttg 600
 ttcttttctg taatgttct ctgttctgt agctgtctt ctttctctgg ctacgcagca 660
 ttgggagatg tggcccaagg atccactct taagaaccag tggcgaaaga cactttcttt 720
 cttcactctg aagtagctgg tggc 744

<210> 229
 <211> 300
 <212> DNA
 <213> Homo sapien

<400> 229
 cgagctctggg ttttgtctat aaagtttgat ccttcctttt ctcatccaaa tcagtgaac 60
 cattacacat cgaataaaaa gaaagggtgg agacttgcac aacgccagga tgacatgtg 120
 tgcagggttg ttgttttta attattattg ttagaaacgt caccacagc cctgttaat 180
 ttgtatgtg cagccaactc tgagaaggct ctatttttcc cctgcagag gatccagct 240
 cactaggctc ctcttgcac tcacaactgg gtctccgcca gtgtgggtgc ccacagacat 300

<210> 230
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 230
 cagcagaaca aatacaata tgaagagtgc aaagatctca taaaatctat gctgaggaat 60
 gagcgacagt tcaaggagga gaagcttgca gagcagctca agcaagctga ggagotcagg 120
 caatataaag tcttggttca cactcaggaa cgagagctga ccagtttaag ggagaagttg 180
 cgggaaggga gagatgcctc cctctcattg aatgagcacc tcacggcctt cctcactccg 240
 gatgaaccgg acaagtcoca ggggcaggac ctccaagaaa cagacctcgg ccgcagaccac 300
 g 301

<210> 231
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 231
 gcaagcacgc tggcaaatct clqtcaggtc agctccagag aagccattag tcatttttagc 60
 caggaaactc aagtcacat ccttggcaac tggggacttg cgcaggttag ccttgaggat 120
 ggcacacagg gacttctcat caggaaagtgg gatgtagatg agctgatcaa gacggccagg 180
 tctgaggatg gcaggatcaa tgatgtcagg ccggttgga ccgccaatga tgaacacatt 240
 Ltttttttgtg gacatgccat ccatttctgt caggatctgg ttgatgactc ggtcagcage 300
 c 301

<210> 232
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 232
 agtaggtact tcgtgagaag ttcaacacca aaactggaac atagttctcc ttcaagtgtt 60
 ggcgacagcg gggcttctg attctggaat ataactttgt gtaaattaac agcaacctat 120
 agaagagtc atctgctgtg aaggagagac agagaactct gggttccgtc gtcctgtcca 180
 cgtgctgtac caagtgtgtg tgccagccctg ttacctgttc tcaactgaaa tctggctaatt 240
 gctcttgtgt atcaacttctg attctgacaa tcaatcaatc aatggcctag agcaactgact 300
 g 301

<210> 233
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 233
 atgaatgact tccnagtaag gctctcttaag gggtaagtaag gaggatccac aggalttgag 60
 atgctaaggc cccagagatc gtttgetcca accctcttat ttccagaggg gaaaatgggg 120
 notagaagtt acagagacac tagctgggtg gctggcacc ctggcctcac acagactccc 180
 gagttagctgg gactacaggg acacagtcac tgaagcaggg cctgttagca attctatgag 240
 tacaattaa catgagatga gtagagactt tattgagaaa gcaagagaaa atcctatcaa 300
 c 301

<210> 234
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 234
 aggtcctaca catcgagact catccatgat tgatattgaat ttaaaaatta caagcaanga 60
 catcttcttc atcagatgac ttctctctctt ttctctctctt cgtctctctctt LLLLLcLLLL 120
 tcaatllcag caacatactt ctcaallctt tcaggattta aaatcttgag ggaattgatct 180
 ngcctcatga cagcaagttc aatgtttttg ccacctgact gaaccacttc caggagtgc 240
 ttgatcacca gcttaattggc cagatcatct gcttcaatgg ctctctcagt atagttcttc 300
 t 301

<210> 235
 <211> 283
 <212> DNA
 <213> Homo sapien

<400> 235
 tggggctgtg catcaggcgg gtttgagaaa tattcaattc tcagcagnag ccagaatttt 60
 aattccctca tcttttaggg aatcattttac cagggtttgg gaggttcag accgctcagg 120
 tgctttcaat aatgtctctg aacttctgtc cctctttgtl catggtatgt ccaataaata 180
 atgttatctt tgaactgatg ctcataggaq aqaataataq aactctgagt gatataaata 240
 ttagggtatc aaagaatat cagalltaaq ctcaactctg tca 283

<210> 236
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 236
 aggtcctcca ccaactgoot gaagcacggg taaaatttgg aagaagtata gtgcagcata 60
 aatctcttta aatcgatcag atttccctaa cccacatgca atcttcttca ccagaagagg 120
 tgggagragc atcattaata ccaagcagaa tgcgtaatag ataaatacaa tggatataag 180
 tgggtagacg gcttcatgag tacagtgtac tgtggtatcg taatctggac ttgggttgt 240
 aagcatcgtg taccagtcag aaagcatcaa tactcgacat gaacgaatat aaagaacacc 300
 a 301

<210> 237
 <211> 301

<212> DNA
<213> Homo sapien

<400> 237
cagtggtagt ggtgggtggac gtggcggttg tctgtgtgccc ttttttgggtg cccgtcaccac 60
actcaatttt tgttcgctcc tttttggcct ttcccaattt gtccatctca atttttctggg 120
ccttggttaa tgctcctatg taggagtcct cagaccagcc atggggatca aacatctct 180
ttgggtagtt ggtgccaagc tcttcaatgg caccagaatgg atcagcttct cgtaaatcta 240
gggttcggaa attctttctt cctttggata atgtagttca tatccattcc ctcttttate 300
t 301

<210> 238
<211> 301
<212> DNA
<213> Homo sapien

<400> 238
gggcaggttt tttttttttt ttttttgatg gtgcagaccc ttgctttatt tgtctgactt 60
gttcacagtt cagccrctctg ctccagaaaac caacggggcca gctaaggaga ggaggaggca 120
ccttgagact tccggagtcg aggtctctca gggttcccca gccatcaat catcttctgc 180
acccctctgc tgggaagcag ctccctgggg ggtgggaatg ggtgactaga agggatttca 240
gtgtgggacc cagggtctgt tcttcacagt aggaggtgga agggatgact aatttcttta 300
t 301

<210> 239
<211> 239
<212> DNA
<213> Homo sapien

<400> 239
ataagcagct agggaaattct ttatttagta atgtcctaac ataaaagtgc acstaactgc 60
ttctgtcaaa ccatgatact gagctttgtg acaaccaga aataactaag agaaggcaaa 120
cataatacct tagagatcaa gaacattta cacagttcaa ctgtttaaaa atagctcaac 180
attcagccag tgagttaggt gtgaatgccg gcatacacag tatacaggtc cttcaggga 239

<210> 240
<211> 300
<212> DNA
<213> Homo sapien

<400> 240
ggtcccaatg aagcagcagc ttccacattt taacgcaggt ttacgggtgt actgtccttt 60
gggatctgac ctccagtga acccttttaag gaagaagtgg gcccaagcta agttccacat 120
gctgggtgag ccagatgact tctgttccct ggtcacttcc ttcaatgggg cgaalqgggg 180
ctgcaggggt tttaaaatca tcttcaatct tgaagcaaac ggtcacttca ccttctctac 240
gctgtlqggtg taactttagt aaaaataccc ctttgttggc ctttctgaag ctataatgtc 300

<210> 241
<211> 301
<212> DNA
<213> Homo sapien

<400> 241
gaggtctggt gctgaggtct ctgggctagg aagaggagtt ctgtggagct ggaagccaga 60
cctcttttga ggaaactcca gcagctatgt tgggtgtctct gagggaatgc aacaaggctg 120
ctccctccatg tattggaaaa ctgcaaaactg gactcaactg gaagggaagt ctgctgccag 180
tgtgaagaac cagcctgagg tgacagaaac ggaagcaaac aggaacagcc agtcttttct 240
tccctctctt gtcatacggg ctctctcaag catcctttgt tgtcaggggc ctaaaaggga 300
g 301

<210> 242
<211> 301

<212> DNA

<213> Homo sapien

<400> 242

```

ccgagggtcct gggatgcaac caatcactct gtttcacgtg acttttatca ccatacaatt      60
tgtggcattt cctcattttc tacattgtag aatcaagagt gtaaatatat gtatatcgat      120
gtcttcaaga atatatcatt cctttttcac tagaaccocat tcaaatata agtcaagaat      180
cttaatatca acaaatatat caagcaaat ggaaggcaga ataactacca taatttagta      240
taagtaacca aagttttata aatcaaaagc cctaattgata accattttta gaattcaatc      300
a

```

<210> 243

<211> 301

<212> DNA

<213> Homo sapien

<400> 243

```

aggtaagttc cagtttgaag ctcaaaagat ctggatagag calagqutca tggacgacat      60
ggtggcccaa gctatgaat cagaggaggg ctccatcttg gcttgtaaaa actatgatgg      120
tgacgtgcag tcggactctg lggcccaagg gtatggctct ctgggcatga tgaacagcgt      180
gctgggttgg ccagatggca agacagtaga agcagagggt gccacaggga ctgtaacccg      240
tcactaccgc atgttcaga aaggacagga gacgtccacc aatcccatg ctccatttt      300
t

```

<210> 244

<211> 300

<212> DNA

<213> Homo sapien

<400> 244

```

gtctggttgc aagaatgaaa lgaatgattc tacaactagg acttaacctt gaaatggaaa      60
gtcatgcaat cccatttgcg agatctgtct gtgcacatgc ctctgtagaq agcaqcatto      120
ccagggaacol tggaaacagt tgacacagta aggtgcttgc tccccaagac acatcctaaa      180
aggtgttgtg atggtgaaaa cgtcttctct ctttattgac ctttcttatt tatgtgaaca      240
actgttgcgc ttttgtgtct cttttttaaa ctgtaaagtt caattglaqa aatgaatata      300

```

<210> 245

<211> 301

<212> DNA

<213> Homo sapien

<400> 245

```

gtctgagtat ttaaaatgtt attgaaatta tccccaacca atgttagaaa agaaagaggt      60
tatatactta gataaaaaat gaggtgaatt actatccatt gaaatcatgc tottagaatt      120
aaggccagga gatattgtca ttaatgtara cttcaggaca ctagaagtata gcagccctat      180
gttttcaaaq agcaqagatg caattaaata ttgtttagca tcaaaaagga cactcaatat      240
agctaataaa atgaagaagc taattttctaa agcaattctt tataattttac aaagttttta      300
g

```

<210> 246

<211> 301

<212> DNA

<213> Homo sapien

<400> 246

```

ggtctgtcct acaatgcctg cttcttgaag gaagtcggca cttctcagaa tagctaaata      60
acctgggctt attttaaaga actatttcta gctcagattg gttttcttat ggclaaaata      120
agtcttctt gtgaaaatta aataaaacag ttaattcaaa gccttgatat atgttaccac      180
taacaatcat actaaatata ttttgaagta caaagtttga catgctctaa agtgacaacc      240
caaatgtgtc ttacaaaaca cgttcctaac aaggtatgct ttacactacc aatgcagaaa      300
c

```

78

<210> 247
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 247
 aggtcctttg gcagggtctca tggatcagag ctcaaaactgg agggaaaggc atttcgggta 60
 gcctcaggag gcactggcg gcagucacaac cuagggaaggc aagggtgttt cccccacgt 120
 gtgtcctgtg ttccaggctcg ccacacacatc ctcatgggaa caggatcacc catgcgctgc 180
 ccttgatgat caaggttggg gcttaagtag attaaggag gcaagttctg ggttccttgc 240
 cttttcaaac catgaagtcg ggctctglat ccttccttti ccttaactgat attctaacta 300
 a 301

<210> 248
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 248
 aggtccttgg agatgccatt tcagccgaag gactcttctw ttccggagta cccctcact 60
 attaggagga ttcttagggg taatttttct gaggaaggag aactagcca cttaagaatt 120
 acagggaagaa agtggtttgg aagacagcca aagaaataaa agcagattca attgtatcag 180
 gtacattcca gcctgttggc aactccataa aaacatttca gattttaatc ccgaatttag 240
 ctaatgagac tggatttttg ttttttatgt tgtgtgtcgc agagctaasa actcagttcc 300
 c 301

<210> 249
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 249
 gtccagagga agcacctggt gctgaactag gcttgccctg ctgtgaaatt gcacttggag 60
 ccttgacgt gctgttctcc ccgaaaaacc ccgaccgact ccggggtctc cgtcccgccc 120
 ccaggagagc ccagcagtg ctcagagctg gtccgacact gtgctccct cctcccgcc 180
 catcgtaatg aattattttg aaatttaatt ccaccatcct ttcagattct ggatggaaag 240
 actgaatctt tgactcagaa ttgtttgctg aaaagaatga tgtgactttc ttagtcatt 300
 a 301

<210> 250
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 250
 ggtctgtgac aaggacttgc aggtctgtgg aggcaggagc cccttaacac tacacttctc 60
 cttatcttta ttggtttgat aaacataatt atttctaacc ctactttatt tccagttgac 120
 cataagcaca tcagtacttt tctctggctg gaatagtasa cttaagtatg gtacatctac 180
 ctaaaagact actatgtgga ataatacata ctaatgaagt attcagagat ttaaagacta 240
 caataaaaacc aaacatgctt ataacattaa gaaaaacaa baagctacat gattgaaacc 300
 a 301

<210> 251
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 251
 gccagaggtc tacatttggc ccagtttccc cctgcattct ctccagggcc cctgcclcat 60
 agacaaacct atagagcala ggaagactgg ttgccttggg ggcaggggga ctgtctggat 120
 ggcaggggtc ctcaaaaatg ccactgtcac tgccaggaaa tgcttctgag cagtacacct 180
 ccttgggalc aatgaaaagc tlcagaaat cttcaggctc actctcttga aggcccgga 240

cctctggagg ggggcagtg aatcccagct ccaggacgga tctgtcgaa aagatatcct 300
c 301

<210> 252
<211> 301
<212> DNA
<213> Homo sapien

<400> 252
gcaaccnate actctgtttc acgtgacttt tatcaccata caattttgtg catttctca 60
ttttctacat tgtagaatca agagtgtana taaatgtata tcatgtctt caagaatata 120
tcattctttt ttcactagga acccattcaa aatataagtc aaqaatctta atatcaacaa 180
atatatcaag caaactggaa ggcagcctaa claccataat ttagtataag taccuaaagt 240
tttataaate aaaaagccct alqataacca tttttagaat tcaatcatca ctqtaqaate 300
a 301

<210> 253
<211> 301
<212> DNA
<213> Homo sapien

<400> 253
ttccctaaga agatgttatt ttgttgggtt ttgttccccc tccatctcga ttctgtacc 60
caactaataa aaaaaataa agaaaaaatg tgcctgcttc tgaaaaataa ctcccttagct 120
tggtctgatt gttttcagac cttaaaaatc aaacttgttt cacaagcttt aatccatgtg 180
gatttttttt cttagagaa caaaaaacat aaaaggagca agtcggactg aatacctgtt 240
tccatagtgc ccacagggtt ttctctacat tttctccata ggaaaatgct ttttcccaag 300
g 301

<210> 254
<211> 301
<212> DNA
<213> Homo sapien

<400> 254
cgctgcgcct ttcccttggg ggaggggcaa ggccagaggg ggtccaagtg cagcacgagg 60
aacttgacca attcccttga agcgggtggg ttaaaccttg taaatggga caaaatcccc 120
ccaaatctct tcatcttacc ctggtggact cctgactgta gaattttttg gttgaaacaa 180
gaaaaaataa aagcttttga cttttcaagg ttgcttaaca ggtactgaaa gactggcctc 240
acttaaaactg agccaggaaa agctgcagat ttattaatgg ggtgtttagt gtgcagtgcc 300
t 301

<210> 255
<211> 302
<212> DNA
<213> Homo sapien

<400> 255
agcttttttt tttttttttt tttttttttt ttcatataaa astagtgtc tttattataa 60
attactgaaa tgtttctttt ctgaatataa atataaatat gtgcaasgtt tgactlqqat 120
tgggattttt ttgagttctt caagratctc ctaataccct caagggcctg agtggggggg 180
aggaaaaagg actggaggtg gaatctttat aaaaaacaag agtgattgag gcagattgtc 240
aacattatta aaaaacaaga aacaaacaa aaatataga aaaaaaccac cccaaacac 300
aa 302

<210> 256
<211> 301
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature

80

<222> {1}...{301}

<223> n = A, T, C or G

<400> 256

```

gttcacagaaa acattgaagg tggcttccca aagtctaact agggatagcc cctctagcct    60
aggaccctcc tcccacacc tcaatccacc aaaccatcca taatgcaccc agataggccc    120
acccccaaaa gcttgacac ctigagcaca cagttatgac caggacugac tcctctctat    180
aggcaaatag ctgctggcaa actggcatta cctggtttgt ggggatgggg gggcaagtgt    240
gtggcctctc ggcctggta gcaagaacat tcagggttaq cctaagttan tcgtgttaqt    300
t                                                                    301

```

<210> 257

<211> 301

<212> DNA

<213> Homo sapien

<400> 257

```

gttgtggagg aaetctggct tgcctattaa gtctactga ttttcaactat cccctgaatt    60
tcccactta ttttgtctt tcactatgc aggccttaga agaggtctac ctgcctccag    120
tcttacctag tccagtctac cccctggagt tagaatggcc atcctgaagt gaaaagtta    180
gtcacattac tcccttcagt gatttcttgt agaagtggca atccctgaat gccaccaaga    240
tcttaatctt cacatcttta atcttatctc ttgactcct ctttacaccg gagaaggctc    300
c                                                                    301

```

<210> 258

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}...{301}

<223> n = A, T, C or G

<400> 258

```

cagcagtagt agatgccgta tgccagcacg cccagcactc ccaggatcag caccagcacc    60
agggggcccag ccaccaggcg cagaagcaag ataaacagta ggctcaagac cagagccacc    120
cccagggcaa caagaatcca ataccaggac tgggcaaaat cttcaagat cttacactg    180
atgtctcggg cattgaggct gtcaataana cgtgatccc ctgctgtatg gtggtgtcat    240
tggtgatccc tgggagcgcc ggtggagtaa cyttggtcca tggaaagcag cggccacaac    300
t                                                                    301

```

<210> 259

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}...{301}

<223> n = A, T, C or G

<400> 259

```

tcatatatgc aaacaaatgc agactangcc tcaggcagag actaaaggac atctcttggg    60
gtgtcctgaa gtgatttga cccctgaggg cagacacctc agtaggaatc ccagtgggaa    120
gcaaaagccat aaggaaagccc aggattcctt gtgatcagga agtgggcccag gaaggtctgt    180
tcagatcac atctcatctg catgcagcac ggaccggatg cggccaactgg gtcttggctt    240
ccctcccatc ttctcaagca gtgtccttgt tgagccattt gcactcttgg ctccagggtg    300
c                                                                    301

```

<210> 260

<211> 301

<212> DNA
<213> Homo sapien

<400> 260
 tttttttttt ccttaaggaa aaggaggaa caagtctcat aaaaaaaaat aagcaatggt 60
 aaggtgtctt aacttgaana agattaggag tcactggllt acaagttata attgaatgaa 120
 agaactgtaa cagccacagt tggccatttc atgccaatgg cagcaaacaa caggattaac 180
 tagggcaaaa taantaagtg lgtggagacc ctgataagtg ctttaataaa agactgaltc 240
 actgagacat caqlacctgc cggggcggcc gclcgagccg aattctgcag ataccatca 300
 c 301

<210> 261
<211> 301
<212> DNA
<213> Homo sapien

<400> 261
 aaatattcga gcaaatcctg taactaatgt gtctccataa aaggctttga actcagtga 60
 tctgcttcca tccacgattc tagcaatgac ctctcggaca tcaaagctcc tottaaggtt 120
 agcaccacaa attccataca attcatcagc aggaataaaa ggctcttcag aaggttcaat 180
 ggtgacatcc aattttcttct gataatttag attcctcaca accttcctag ttaagtgaag 240
 ggcattgatga tcatccaaag cccagtggtc acttaactcca gactttctgc aatgaagatc 300
 a 301

<210> 262
<211> 301
<212> DNA
<213> Homo sapien

<400> 262
 gaggagagcc tgttacagca tttgtaagca cagaatactc caggagtatt tgtaattgtc 60
 tgtgagcttc ttgcgcgaag tctctcagaa atttaaaaaag atgcaaatcc ctgagtcacc 120
 cctagacttc ctaaacacaga tctcttgagg ctggaacctg gcactctgca tttgtaatga 180
 gggtctttctg gtgcacacct aattttgtgc atctttgccc taaatcctgg attagtccc 240
 catcattacc cccacattat aatgggtag attcagagca gatactctcc agcaagaat 300
 c 301

<210> 263
<211> 301
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> {1}...{301}
<223> n = A, T, C or G

<400> 263
 tttagcttgt ggttaattgac tcacaaaact gattttaaaa tcaagttaat gtgaattttg 60
 aaaaattacta cttaatccta attcacaata acaatggcat taaggtttga cttaggttgg 120
 ttcttagtat tatttatggt aatatggctc ttaccacttg caaataactg gccacatcat 180
 taatgactga ctccacagta aggtctctta aggggttaagt angaggatcc acaggatttg 240
 agatgctaag gccccagaga tegtittgac caacctctt attttcagag gggaaaaatgg 300
 g 301

<210> 264
<211> 301
<212> DNA
<213> Homo sapien

<400> 264
 aaagacgtta aaaaactcta ctaccacttg tggaaacttc aaaaaggtaaa tgacaaaaacc 60

aatgaatgac	tctaaaaaca	atatttaccat	ttatctgggtt	gtagacaata	aaaaaacaag	120
gtggatagat	ctagatttgc	aacalittaa	gaaaaccata	scatttgaca	gatgagaaag	180
ctcaatttata	gctgcacaag	tataactaaa	ctactatagt	agtaaagaaa	tacatttcac	240
accttcata	tcaattcact	atctctggctt	gaggcaactcc	atanaatgta	tcacgtgcac	300
a						301

<210> 265
 <211> 301
 <212> DNA
 <213> Homo sapien

tgcccaagtt	atgtgtaagt	gtatccgcac	ccagaggtaa	aactacactg	tcctctttgt	60
cttcttgtga	cgcagtattt	cttctctggg	gagaagccgg	gaagtcttct	cttggctcta	120
cataattctg	gaagtctcta	atcaactttt	gttccatttg	tttcatttct	tcaggaggga	180
ttttcagttt	gtcaacatgt	tctctaaca	cacttgcca	tttctgtaaa	gaatccaag	240
cagtcacaag	ctttgacatg	tcaacaacca	gcataactag	agtatccttc	agagatacgg	300
c						301

<210> 266
 <211> 301
 <212> DNA
 <213> Homo sapien

taccgtctgc	cttctctccc	atccaggcca	tctgogaato	tacatgggtc	ctcctattcg	60
acacccagat	actcltctct	ctaccacag	gcttgctatg	agcaagagac	acaacctctt	120
ctctctctgt	ctccagcttc	cttctctgtt	cttccacccc	cttaagttct	attcctgggg	180
ctagagacac	caatccccat	aacctctctc	ctaagctccc	ttataaccca	gggtgcacag	240
cacagaatcc	tgacaactgg	taaggccaat	gaactgggag	ctcacagcag	gctgtgcttg	300
a						301

<210> 267
 <211> 301
 <212> DNA
 <213> Homo sapien

aaagagacaa	ggccagctca	gcctgccctg	gccatctaga	ctcagccctg	ctccatgggg	60
gttclcaagt	ctgagtcuat	ccaggaaaag	ctcacctaga	cttcttgagg	ctgaatcttc	120
atctcacaag	gcagcltctg	agagcctgat	attcctagcc	ttgatyggtt	ggagttaagg	180
ctcatctctg	ctctctctct	cttctctctt	caagtctggt	ttctcaccat	ccctctgttc	240
aattcgtctc	agcttgcltg	ctttagcctt	catctccaga	agcttctctt	ctttggcctc	300
t						301

<210> 268
 <211> 301
 <212> DNA
 <213> Homo sapien

aatgtctcac	tcaactactt	cccagcctac	cgtggcctaa	ttctgggagt	tttcttctta	60
gatcttggga	gagctggttc	ttctaaggag	aaggaggaa	gacagatgta	actttggatc	120
togaagagga	agtctaattg	aagtaattag	tcaacggctc	ttgttttagc	tcttgggaata	180
tgctgggtgg	ctcagtgagc	ctttttggag	aaagcaagta	ttattcttaa	ggagtaacca	240
cttcccaattg	ttctacttcc	taccatcctc	aattgtatat	tatgtattct	ttggagaact	300
a						301

<210> 269
 <211> 301
 <212> DNA
 <213> Homo sapien


```

<400> 269
taacaatata cactagctat ctttttaact gtccatcatt agcaccaatg aagattcaat      60
aaaattacct ttattcacac atctcaaaac aattctgcaa attcttagtg aagtttaact      120
atagtcacag accttaataa ttcacattgt tttctatgtc tactgaaaat aagttcaacta      180
ctttctgga tattctttac aaaatcttat taaaattcct ggtattatca cccccaatta      240
tacagtagca caaccacctt atgtagtttt tacatgatag ctctgtagaa gtttcacatc      300
t                                                                                   301

```

```

<210> 270
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 270
cattgaagag ctttctcgaa acatcagaac acaagtgttt ataaaattaa ttaagcetta      60
cacaagaata catattcctt ttatttctaa ggagtttaac atagatgtag ctgatgtgga      120
gagcttgctg gtgcaglgca tattggataa cactattcat ggccgaattg atcaagtcac      180
ccactcctt gaactggctc atcagaagaa gggtygtaca ccatatactg cactagataa      240
tggaccaacc aactaaattc tctcaccagg ctgtatcagt aaactggctt aacagaaaaac      300
a                                                                                   301

```

```

<210> 271
<211> 301
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> {1}...{301}
<223> n = A,T,C or G

```

```

<400> 271
aaaaggttct cataagcttc acaattttaa taaatwtllg atagaaacatt ctttctcatt      60
tttatagctc atcttttagg ttgatalcca gtctatgctt ccttggcgtt ttttgatcca      120
gaattgcaat cacttcacca gctgttatcc gctccaatcc tclataaaagt ggglccaagg      180
tgaccacag agccacagca cactcttttc ccttggtgac tgccttcacc ccatgenggt      240
totctcctcc agatganaac tgatcatgag cccacatttt gggttttata gaagcagtcac      300
c                                                                                   301

```

```

<210> 272
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 272
taaatgtcta agccacagat aacaccantc aatgganaca aatcactgtc ttcaaatgtc      60
ttctcagaaa accaaatgag cctggaatct tctaataacc taacatgccc gtatttagga      120
tccaataatt cctcatgat gagcaagaa aattctttgc gacccctcc tgcattccac      180
gcatcttttc caacaastat aaccttgag: ggctctctgt actctatgtt ctttgttttc      240
ctaaggactt coattgcac tctacaaata tttctctctc gacccactag aattaagvag      300
g                                                                                   301

```

```

<210> 273
<211> 301
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> {1}...{301}
<223> n = A,T,C or G

```

<400> 273

acatgtgtgt	atgtgtatct	ttgggaaan	aanaagacat	cttgtttayt	atTTTTtttgg	60
agagangctg	ggacatggt	atcacwtaa	tttgctayta	tyactttaat	ctgactygaa	120
gaaccgtota	aaaataaaa	ttaccatgtc	dtataattcct	tatagtatgc	ttatttcacc	180
ttyttctgt	ccagagagag	tatcagtgac	ananatttma	gggtgaamac	atgmatgggt	240
gggaactnty	tttacongym	acctgcccg	sgugccctcg	makongantt	ccgcsananc	300
t						301

<210> 274

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(301)

<223> n = A,T,C or G

<400> 274

cttatatact	ctttctcaga	ggcaaaagag	gagatgggta	atgtagacaa	ttctttgagg	60
aacagttaat	gattattaga	gagaangaat	ggaccaagga	gacagaaatt	aaattgtaaa	120
tgattctctt	tggaatctga	atgagatcaa	gaggccagct	ttagcttggt	gaaaagtcca	180
cttaggtatg	gttgcatctc	cgtctctctt	ctctcagtag	ataatgaggt	aaaccgaaggc	240
aatttgtcct	cttttgataa	gaagctttct	tggtcatatc	aggaaattcc	aganaaagtc	300
c						301

<210> 275

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(301)

<223> n = A,T,C or G

<400> 275

tcggtgtcag	cagcacgtgg	cattgaacac	tgcaatgtgg	agcccaaaac	acagaaaatg	60
gggtgaaatt	ggccaaactt	ctattaactt	atgttggcaa	ttttgccacc	aacagtaagc	120
tggcccttct	ataaaaagaa	aattgaanag	ttctcacta	aacgganatta	agtagtgag	180
tczagagact	cccaggccctc	agcgtacutg	ccggggcggc	cgtctgaagc	cgaattctgc	240
agatatccat	cacactggcg	gncgctcgan	catqcatcta	gaaggnccaa	ttcgccctat	300
a						301

<210> 276

<211> 301

<212> DNA

<213> Homo sapien

<400> 276

tgtacacata	ctcaataaat	aatgactgc	attgtggtat	tattactata	ctgattatat	60
ttatcatgtg	acttctaatt	agaaaatgta	tccaaaagca	aaacagcaga	tatacaaaat	120
taaagagaca	gaagatagac	attaacagat	aaggcaactt	atacattgag	aatccaaatc	180
caatacattt	aaacatttgg	gaaatgaggg	ggacaaatgg	aagccagatc	aaatttgtgt	240
aaaactattc	agtatgtttc	cctgtcttca	tgtctgagaa	ggctctcctt	caatggggat	300
g						301

<210> 277

<211> 301

<212> DNA

<213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 277
 tttgttggatg tcagtatttt attacttgcg ttatgagtgc tcacctggga aattctaaag 60
 atacagagga cttggaggaa gcagagcaac tgaatttaat taaaaagaag gaaaacattg 120
 gaatcatggc actcctgata ctttcccaaa tcaacactct caatgcccc cctcgtcct 180
 caccatagtg gggagactaa agtggccacg gatttgcctt angtgtgcag tgcgttctga 240
 gttenctgtc gattacatct gaccagtctc ctttttccga agtccntcog ttcaatcttg 300
 c 301

<210> 278
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 278
 taccactaca ctccagcctg ggcaacagag caagacctgt ctcaaagcat aaatggaat 60
 aacalatcaa atgaaaagg gaaaatgaag ctgacaattt atggaagcca gggcttgtca 120
 cagtctctac tgttattatg cattacctgg gaatttatat aagcccttaa taataatgcc 180
 aatgaacatc tcatgtgtgc tcacaatgtt ctggcactat tataagtgtc tcacagggtt 240
 tatgtgttct tegttaactt atggantagg tactcggcog cgaacacgct aagccgaatt 300
 c 301

<210> 279
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 279
 aaagcaggaa cgacaaagct tgcttttctg gtatgttcta ggtgtattgt gacttttact 60
 gttatattaa ttgccaatat aagtaaatat agattatata tgtatagtgt ttcaaaagc 120
 ttagacottt accttcacg caccacacag tgcttgatat ttcagagtc gtcattgggt 180
 atacatgtgt agttccaaag cacataagct agaanaanaa atatttctag ggagcactac 240
 catctgtttt cacatgaaat gccacacaca taqaactcua acatcaattt cattgacag 300
 a 301

<210> 280
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 280
 ggtacLqgag Ltctctccc ctgtgasaac gtaactactg ttgggagtga attgaggatg 60
 tagaaaggct gtggaaccaa attgtggta atggaatatg gagaatatgg ttctcactct 120
 tgagaaaaaa acctaaagatt agcccaggta gttgcctgta acctcagttt ttctgcctgg 180
 gctt.gatata gtttaggggt ggggttagat taagatctaa attacatcag gacaaagaga 240
 cagactatta actccacagt taattaagga ggtatgttcc atgtttattt gttaaagcag 300
 t 301

86

<210> 281
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 281
 aggtacaaga aggggaatgg gaaagagctg ctgctgtggc attgtccaac ttggatattc 60
 gccgagcaat ccaaactcctg aatgaagggg catcttctga aaaaggagat ctgaatctca 120
 atgtggtagc aatggcttta tcgggttata cggatgagaa gaactccctt tggagagaaa 180
 tgtgtagcac actgcgatta cagctaaata acccgatttt gtgtgtcatg ttgcatcttc 240
 tgacaagtga aacaggatct tacgatggag ttttgtatga aaacaaagtt gcagtacctc 300
 g 301

<210> 282
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 282
 caggtactac agaattaaa tactqacaag caagtagttt ctctggcgtgc acgaattgca 60
 tcacgaaccc aaaaatttaa aaattcctaa agacattttg tgggcacclg ctacacacagc 120
 agcgcagaa ccaagcccaag gcagaaacct gctaacctta cagclcagcc tgccagagagc 180
 cgcagaaagc aagccccagc agaacctatg taaccttaca gctcagcctg ccacagagcg 240
 caggaagcaan gccnaggcag aacatgctaa ctttcagct cagcctgcac agsagcacag 300
 a 301

<210> 283
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 283
 atctgtatag ggcagacaaa cttttatarag tgtagagagg tgagcgaaaag gatgcnaaag 60
 cacttttggg gttttataat aatatqctgc ttgaaabaaa aaatgtgtag ttgalactca 120
 gtgcatacgc agacatagta aggggttgc clgacccatc aggtgatcat tttttctatc 180
 acttcccagg ttttatgcac aatlttght aaattctata atgglgatat gcattcttta 240
 ggaacatat acatlltta aaatctattt tatgtaaaga ctgacagacg aatttgcttt 300
 g 301

<210> 284
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 284
 caggtacaaa acgctattaa gtggccttaga atttgaacat ttgtggtctt tatttaacttt 60
 gcttcgtgtg tgggcaaaag aacatcttcc ctaaatatat attaccaaga aagcaagaa 120
 gcagattagg tttttgacaa aacaaacagg ccnaaagggg gctgacctgg agcagagcat 180
 ggtgagaggc aagguatgag agggcaagtt tgttgtggac agatctgtgc ctactttatt 240
 actggagtga aagaaaacaa agttcattga lgtcgaagga tatatacagt gttagaantt 300
 a 301

<210> 285
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 285
 acatcaccat gatcggatcc cccacccatt ataogttgta tgtttacata aatactcttc 60
 aatgatcatt agtgttttaa aaaaaatact gaaaactcct tctgcacccc aatctctaac 120
 caggaaagca aatgctatct acagacctgc aagccctccc tcaaacnaaa ctatttctgg 180
 attaaatatg totgacttct tttgaggcca caccgactagg caaatgctat ttacgatctg 240
 caaaagctgt ttgaagagtc aaagccccc tgtgaacacg atttctggac cctgtaacag 300
 t 301

<210> 286
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 286
 taucactgca ttccagcctg ggtgacagag tgagactccg tctccaaaaa aaactttgct 60
 tglatatctc ttttgcctta cagtggaalca ttctcgtagg aaaggacagt aagatttttl 120
 atcaaaatgt gtcctgccag taagagatgt tatattcttt tctcatttct tccccaccca 180
 aaaaatagct accctatagc ttataagctc caaatllttg ctttttacta aaatgctgatt 240
 gtttctgttc attgtgtatg ctctcctccc tatattgggc aaatttcatt ttttcccttg 300
 t 301

<210> 287
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 287
 tacagatctg ggaactaaat attaaaaatg agtgtggctg gatatatgga gaatgttggg 60
 uccagaagga acgtagagat cagatattac aacagctttg ttttgagggt tagaaatatg 120
 aatgattttg gttatgaacg cacagtttgc gcagcagggc cagaatcctg accctctgcc 180
 ccgtggttat cttctccccc gcttggctgc ctcatgttat cacagtatto cettllggtt 240
 gttgcctgtc ttgtgaagcc atcaagcttt tctcgtctgt tttcctctca ttggtaatgc 300
 t 301

<210> 288
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 288
 gtacacctaa ctgcaaggac agctgaggaa tgaatgggc agccgctttt aaagaagtag 60
 agtcaatagg aagacaaatt ccagttccag ctacgtctgg gtatctgcaa agctgcaaaa 120
 gatctttaaa gacaatttca agagaatatc tccctaaagt tggcaatttg gagatcatc 180
 aaagcatct gcttttgtga tttaatttag ctcatctggc cactggaaga atccaaacag 240
 totgccttaa ttttggalga atgcctgctg gaaattcaat aatttagaaa gttcaaaaaa 300
 a 301

<210> 289
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 289
 ggtacactgt ttccatgcta tgtttctaca cattgctacc tcagtgtctc tggaaactta 60
 gcttttgatg tctccaagta gtccaccttc atttaactct ttgaaactgt atcatctttg 120
 ccaagtaaga gtggtggcct atttcagctg ctttgacaaa atgactggct cctgacttaa 180

88

```

cgtttatataa atgaatgtgc tgaagcaaaag tgcccatggc ggccggcgaan aagaqaaaga      240
tgtgttttgt tttggaactct ctgtgggtccc ttccaatgct gtgggtttcc aaccagngga      300
a                                                    301

```

```

<210> 290
<211> 301
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(301)
<223> n = A,T,C or G

```

```

<400> 290
acactgaget cttcttgata aatatacaga atgcttggca tatacaagat tctataactac      60
tgactgatct gttcattttct ctcacagctc ttacccccaa aagcttttcc accctaagtg      120
ttctgacctc cttttctaata cacagtaggg atagaggcag anccacctac aatgaacatg      180
gagttctatc aagaggcgaga aacagcacag aatcccagtt ttaccattcg cttagcagtgc      240
tgccctgaac aaaaaacattt ctccatgtct catittcttc atgcctcaag taacagtgag      300
a                                                    301

```

```

<210> 291
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 291
caggtaacca tttttctctc cctagaacca ttcccttcta tgttggtgaa acataacaaac      60
tatatcagct agatllllll tctatgcttl acclgctatg gaaaalllga cacattctgc      120
tttactcttt tgtttatagg tgaatcacaa aatgtatttt tatgtattct gtagttcaat      180
agccatggct gtttacttca ttttaatttat ttagcataaa gacattatga aaaggcctaa      240
acatgagctt caattcccca ctaactaaft agcatctggt atttcttaac cgtaatgoot      300
a                                                    301

```

```

<210> 292
<211> 301
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(301)
<223> n = A,T,C or G

```

```

<400> 292
accttttagt agtaatgtct aataataaat aagaatatca ttttataagg tccatatagc      60
tgtattaaat aatttttaag tttaaaagat aaaataccat cattttaaat gttgggtattc      120
aaaaccaaag natataaccg aaaggaaaaa cagatgagac ataaaatgat ttgcagatg      180
ggaaatatag tasttyatga atgttnatta aattccagtt ataatatgtg ctacacactc      240
tcactacaca cacagacccc acagtccctat atgccacaaa cacatttcca taacttgaaa      300
a                                                    301

```

```

<210> 293
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 293
ggtaccaggt gclqqlgcca gactgttacc tgttctcact gaaaggtctg gctaetgctc      60
tlqlgtaglc acttctgatt ctgacaatca atcaatcaat ggccatagagc actgactgtt      120
aavacaaacg tcaclcgcaa agtagcaaca gcttttaagt taaatacaaa gctgttctgt      180

```

89

```

gtgagaattt tttaaaaggc tacttgtata ataacccttg tcatttttaa tgtacctcgg      240
cgcgaccac gctaagccga attctgcaga tatccatcac actggcgccc gctcgagcat      300
g                                          301

```

```

<210> 294
<211> 301
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(301)
<223> n = A,T,C or G

```

```

<400> 294
tgaccataa caatatcac tagctatctt tttactgtc catcattagc accaatguag      60
attcaataaa attaccttta ttcacacatc tcaaaacaat tctgcuuatt cttagtgaag      120
tttaactata gtcacaganc ttzaatattc acattgtttt ctatgtctac tgaaaatag      180
ttcaactact ttctgggata ttctttacaa aatcttatta aaattcctgg tattalcaac      240
cccaattata cagtagcaca accacettal gtaqittttt catgalagol ctgtagaggt      300
t                                          301

```

```

<210> 295
<211> 305
<212> DNA
<213> Homo sapien

```

```

<400> 295
gtactctttc tctccctcc tctgaattta attctttcaa ctgcaattt gcaaggatta      60
cacatttcac tgtgatgtat atttgtttgc aaaaaaaaaa gtgtctttgt ttaaaattac      120
ttggtttgtg aatccactct gcttttccc cattggaaat agtcattaac ccattctctga      180
actggtagaa aaactctgga agagctagtc tatcagcatc tgacaggtga attggatggt      240
tctcagaacc atttcaccca gacagcctgt ttctatcctg tttaataaat caqitttgggt      300
tctct                                          305

```

```

<210> 296
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 296
aggtagctatg ggaagctgct aaaataatat ttgatagtaa aagtatgtaa tctgctatct      60
cacctagtag taaactaaaa ataaactgaa actttatgga atctgaagtt attttccttg      120
attaataga attaatcaac caatatgagg aaacatgaaa ccattgcaatc tactatcaac      180
tttgaaaaag tgattgaacg aaccacttag ctttcagatg atgaacactg ataagtcatt      240
tgccattact ataaatttta aaatctgtta ataagatggc ctatagggag gaaaaagggg      300
c                                          301

```

```

<210> 297
<211> 300
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(300)
<223> n = A,T,C or G

```

```

<400> 297
actgagtttt aactggacgc caagcaggca aggcctggaag gttttgctct ctttgtgcta      60
aaqgttttga aaactttgaa ggagaatcat tttagacaaga agtacttaag agtctayaga      120
acaaagangt gaaccagctg aaagctctcg ggggaanctt acatgtgttg ttaggcctgt      180

```

90

```
tccatcattg ggagtgcact ggccatccct caaaatttgt ctgggctggc ctgagtggtc 240
accgcacctc ggccgcgacc acgctaagcc gaattctgca gatatccatc acactggcgg 300
```

```
<210> 298
<211> 301
<212> DNA
<213> Homo sapien

<220>
<221> misc feature
<222> (1)..(301)
<223> n = A,T,C or G
```

```
<400> 298
tatggggttt gtcacccaaa agctgatgct gagaaaggcc tccctggggc ccctcccgcg 60
ggcatctgag agacctggty ttccagtgtt tctggaaatg ggtcccagtg ccgccggctg 120
tgaagctctc agatcaatca cgggaagggc ctggcggtgg tggccacctg gaaccacct 180
gtcctgtctg tttaatttcc actaycaggt tttctctggg cattacnatt tgttccccta 240
caacagtgc cgtgtgcatc tctgttggcc tctgtgtctt gcaggtggtt ctacgcgagg 300
t 301
```

```
<210> 299
<211> 301
<212> DNA
<213> Homo sapien
```

```
<400> 299
gttttgagac ggagttttac tcttgttgcc cagactggac tgcaatggca gggctctctgc 60
tcaetgcacc ctctgctcc caggttcgag caattctcct gctcagcct ccaggttagc 120
tgggattgca ggtccagccc accataccca gctaattttt ttgtattttt agtagagacg 180
gagtttgcgc atgttggcca gctggtctca aactcctgac ctcaagcgac ctgcttgcct 240
cgccctccca aagtgtctga attataggua tgagtcacca cggccagcct aaagatattt 300
t 301
```

```
<210> 300
<211> 301
<212> DNA
<213> Homo sapien
```

```
<400> 300
attcagtttt atttgcctgc ccagtatctg taaccaggag tgccacaaa tcttgcraga 60
tatgtccac accactggg aaaggctccc acctggctac ttctctatc agctgggtca 120
gctgcattcc acaaggttct cagcctaagt agtttcta cctgccagtc tcaaaactta 180
gtaaagcaag accatgacat tccccacgg aaatcagagt ttgcccacc gtottgttac 240
tataaagcct gctctaaaca gtcttctgtt ctccacacca atcccagcgc catccccat 300
g 301
```

```
<210> 301
<211> 301
<212> DNA
<213> Homo sapien
```

```
<400> 301
ttaaattttt gagaggataa aaaggacaaa taatctagaa atqlqhtctt tlcagtctgc 60
agaggacccc aggtctccaa gcaaccacat ggtcaagggc atgaataatt aaaaagttgt 120
gggaactcac aaagacctc agagctgaga caccacaac agtgggagct cacaaagacc 180
ctcagagctg agacaccac aacagtggga gctcacaagg acctcagag ctggagacac 240
cccacagca cctcgttcag ctgccacatg tgtgaataag gatgcaatgt ccagaagtql 300
t 301
```

```
<210> 302
<211> 301
```


<212> DNA
<213> Homo sapien

<400> 302
aggtacacat tttagcttgtg gtaaatgact cacaaaaactg atttttaaatt caagttaatg 60
tgaatttttg aaattactac ttaatcctaa ttccacaataa caatggcatt aagggtttgac 120
ttgagttggt tcttagtatt atttatggta aataggtctt taccacttgc aaataactgg 180
ccacatcatt aatgactgac ttcccagtaa ggctctctaa ggggtaagta ggaggatcca 240
caggatttga gatgctaagg ccccagagat cgtttgatcc aacctctta ttttcagagg 300
g 301

<210> 303
<211> 301
<212> DNA
<213> Homo sapien

<400> 303
aggtaccaac tgtggaaata ggtagaggat cattttttct tcccatatca actaagttgt 60
atattgtttt ttgacagttt uacacatctt cttctgtcag agattctttc acaatagcac 120
tggctaattg aactaccgct tgcattgtta aatgggtggg ttgtgaaatg atcctaggcc 180
agtaacgggt atgtctttct aactgatctt llgctccttc caaagggaac tcaagacttc 240
catcgatttt atctctgggg tctagaaaag gagtcaatct gttttccctc ataaatcac 300
c 301

<210> 304
<211> 301
<212> DNA
<213> Homo sapien

<400> 304
acatggatgt tattttgag actgtcaacc tgaatttga ttgtcttgac attgcctaatt 60
tattagtttc agtttcagct taccactttt ttgtctgcaa catgcaraas agacagtgcc 120
cttttttagtg tatcatatca ggaatcatct cacattgggt tgtgccatta ctggtgcagt 180
gactttcagc cacttgggtg aggtggagtt ggcacatgt ctccactgca aaattactga 240
ttttcctttt gtaattaata agtgtgtgtg tgaagattct ctgaagtga gttatatact 300
c 301

<210> 305
<211> 301
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)..(301)
<223> n = A,T,C or G

<400> 305
gangtacagc gtggtcaagg taacaaqaag aaaaatgt gagtggcctc ctgggatgag 60
cagggggaca gacctggaca gacacgttgt catctcctgc tgtgggtagg aaaaatgggcg 120
taaaggagga gaaacagata caaaactctc aactcaglat taaggtattc tcatgcctag 180
aatattggta gaaacagaa tacattcata tggcaaatca claacctatg tggaaacaaa 240
ttctgggatt taagllggat aaccaangaa ttgtattaaa agagctcttc atygaaatag 300
a 301

<210> 306
<211> 6
<212> PRT
<213> Homo sapien

<400> 306
Val Leu Gly Trp Val Ala Glu Leu

1

5

<210> 307
 <211> 637
 <212> DNA
 <213> Homo sapien

<400> 307

acaggggatg	aagggaaaag	gagaggatga	ggaagccccc	ctggggattt	ggtttggtcc	60
ttgtgatcag	gtgggtctatg	gggcttatcc	ctacaaagaa	gaatccagaa	ataggggcac	120
attgaggaat	gatacttgag	cccaaaagagc	attcaatcat	tgttttattt	gccttmtttt	180
cacaccattg	gtgagggagg	gattaccacc	ctggggttat	gaagatgggt	gaacacccca	240
cacatagcac	cggagatatg	agatcaacag	tttcttagcc	atagagattc	acagccuaga	300
gcaggaggac	gcttgccacc	catgcaggat	gacatggggg	atggcgtcgg	gattgggtgtg	360
aagaagcaag	gactgttaga	ggcaggcttt	atagtaacaa	gacgggtggg	caaaactctga	420
tttccgtggg	ggaatgtcat	ggtccttgcct	tactaagttt	tgaagactggc	aggtagtcaa	480
actcattag	ctgagaaact	tgtggaaagc	acttgaccca	actgataggc	gaagtggcca	540
ggtagggggc	tttcccaagt	ggtgtgggac	atatctggcc	agatlltgtg	gcactcctgg	600
ttacagatat	tggggcagca	aalcaaaactg	aatcltgg			637

<210> 308
 <211> 647
 <212> DNA
 <213> Homo sapien

<220>

<221> misc feature

<222> (1) ... (647)

<223> n = A,T,C or G

<400> 308

acgatttcca	ctctcatgta	actcgggtca	ctcagggggc	caaccacagc	tgggagccac	60
tgtccagggg	aagggtccat	tgggactllc	tactgcccaa	ggttctctac	aggatatcaa	120
ggngccctcac	agtalagatc	tggtagcaaa	gaagaagaaa	caaacactga	tctctttctg	180
caacccctct	gaccttttg	aactcctctg	accttttaga	acaagcctac	ctaatactctg	240
ctagagaaaa	gaccaacaac	ggcctcaaa	gatctcttac	catgaaggto	tcagctaatt	300
cttggctaag	atgtgggttc	cacattaggt	tctgaatatg	gggggaaggg	tcaatttgcct	360
cattttgtgt	gtggataaag	tcaggatgcc	caggggccag	agcagggggc	tgcttgcttt	420
gggaacaatg	gctgagcata	taaccatagg	ttatggggaa	caaaaacaaca	tcaaaagtcc	480
tgtatcaatt	gocatgaaga	cttgagggac	ctgaatctac	cgattcatct	taaggcagca	540
ggaccagttt	gagtggaac	aatgcagcag	cagaatcaat	ggaacaaca	gaatgattgc	600
aatgtccttt	ttttctcct	gctcttgact	tgataaaagg	ggaccgt		647

<210> 309
 <211> 460
 <212> DNA
 <213> Homo sapien

<400> 309

actlltatagt	ltaggcttga	nat,tggaaaa	aaaaaaaagc	cagaaccaaca	tgtgatagat	60
aattatgattg	gctgcacact	tccagactga	tgaatgatga	acgtgatgga	ctattgtatg	120
gaacacatct	tcagcaagag	ggggaataac	tcactatctt	tggccagcag	tgttttgatc	180
acccaaacatc	atgccagaat	actcagcaaa	ccttcttagc	tcttgagaag	tcaaaagtccg	240
gggggaattta	ttccttggca	ttttaatttg	actccttatg	tgagagcagc	ggctacccag	300
ctggggttgg	ggagcgaaac	cgtcactagt	ggacatgcag	tggcagagct	cctggtaacc	360
accttagagg	atacacaggc	acatgtgtga	tggcaagcgt	gacacctgta	gcactcaaat	420
ttgtcttgtt	tttgtcttct	ggtgtgtaag	attcttaagt			460

<210> 310
 <211> 539
 <212> DNA
 <213> Homo sapien

```

<400> 310
acgggacttc tcaaatcaag ataggaaaag aagaaaactc aaatatata ggcagaaatg      60
ctaaaggttt taaaatatgt caggattgga agaaggcatg gatcaagAAC aaagttcagt      120
taggaagagag aaacacagaa ggaaagagaca caataaagat cattatgtat tctgtgagaa      180
gtcagacagat aagattttgt ggaaatgggt tggtttgttg tatggtatgt attttagcaa      240
taattctttat ggcagagaaa gctaaaatcc tttagcttgc gtgaatgatc acttgctgaa      300
ttcctcaagg taggcatgat gaaggagggt tttagaggaga cacagacaca atgaactgac      360
ctagatagaa agccttagta tactcagcta ggaatagtga ttctgagggc acactgtgac      420
atgattatgt cattacatgt atggtagtga tggggatgat aggaaggaaag aacttatggc      480
atattttcac cccacaaaaa gtcagttaaa taatgggaca ctaaccatcc aggtcaaga      539

```

```

<210> 311
<211> 526
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(526)
<223> n = A,T,C or G

```

```

<400> 311
caaatTTqag ccaatgacat agaattttac aaatcaagaa gcttattctg gggccatttc      60
ttttgacggt ttctctaaac tactaaagag gcattlaatga tccalaaatt atattatcta      120
catttacagc atttaaaatg tgltcagcat gaatatattag ctacagggga agclaaataa      180
atlaaacatg gaataaagat ttgtccttaa atataaacta caagaagact ttgatatttg      240
tttttcacaa gtgaagcatt cttataaagt gtcataacct ttttggggaa actatgggaa      300
aaaatgggga aactctgaag ggttttaagt atcttacctg aagctacaga ctccataacc      360
tctctttaca gggagctcct gcagccocta cagaaatgag tggctgagat tcttgattgc      420
acagcaagag cttctcatct aaacoccttc cotttttagt atctgtgtat caagtataaa      480
agttctataa actgtagtnt acttatttta atccccaaag cacagt      526

```

```

<210> 312
<211> 500
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(500)
<223> n = A,T,C or G

```

```

<400> 312
cctctctctc cccacccctc gactctagag aactgggttt tctccagta ctccagcaat      60
tcattttctga aagcagttga gacactffat tccaaagtac actgcagatg ttcaaaactct      120
ccattttctct ttcccttcca cctgccagtt ttgtgactc tcaacttgc atgagtgtaa      180
gcattaagga cattatgctt cttcgattct gaagacaggc cctgctcatg gatgactctg      240
gcttcttagg aaaatatttt tottccaaa tcagtaggaa atctaaactt atccccctct      300
tgcagatgtc tagcagcttc agacatttgg ttaagaaccc atgggaaaaa aaaaaatcc      360
tgctaagtgt gtttcctttg taaccanqa ttcttatttg nctggtatag aatatcagct      420
ctgaacgtgt ggtaaagatt ttgtgtttg aatataggag aaatcagttt gctgaaaagt      480
tagtcttaat tatctattgg

```

```

<210> 313
<211> 718
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(718)

```

<223> n - A, T, C or G

<400> 313

ggagatttgc	gtgggtttgca	gccgagggag	accaggaaga	tctgcatggt	gggaaggacc	60
tgatgataca	gagggtgagaa	ataagaaagg	ctgctgactt	tacctatctga	ggccacacat	120
ctgctgaaat	ggagataatt	aacatcacta	gaaacagcaa	gatgacaata	taatgtctaa	180
gtagtgcacat	gtttttgcac	atttccagcc	cttttaata	tccacacaca	caggaagcac	240
aaaagggaagc	acagagatcc	ctgggagaaa	tggccggccg	ccatcttggg	tcctcgatga	300
gcctcgccct	gtgcctgntc	ccgcttgtga	gggaaggaca	ttagaaaatg	aattgatgtg	360
ttccttaaaag	gatggcagga	aaacagatcc	tgttgtggat	atttatttga	acgggattac	420
agatttgaaa	tgaagtcaca	aagtgaagcat	tacccatgag	aggaaaacag	acgagaaaat	480
cttgatgggt	cacaagacat	gcaacaaaca	aaatggaaata	ctgtgatgac	acgagcagcc	540
aaatggggag	gagataccac	ggggcagagg	tcaggattct	ggccctgctg	cctaactgtg	600
cgttatacca	atcatttcta	tttctacct	caaaacaagct	gtngaatatc	tgacttacgg	660
ctcttntggc	ccacattttc	atnatecacc	ccntctttt	aannttante	caaaantgt	718

<210> 314

<211> 358

<212> DNA

<213> Homo sapien

<400> 314

gtttatttgc	attacagaaa	aaacatccag	acaatgtata	ctatttcaaa	tatatccata	60
cataatcaaa	tategctgta	gtacatgttt	tcattgggtg	agattaccac	aaatgcabgg	120
caacatgtgt	agatctcttg	tcttattctt	ttgtctataa	tactgtattg	tgtagtccaa	180
gctctcggtg	gtccagccac	tgtgaacat	gctcccttta	gattaacctc	gtggacgctc	240
ttgttgatt	gctgaactgt	agtgcctgt	attttgcttc	tgtctgtgaa	ttctgttgc	300
tctggggcat	ttccttgtga	tgcagaggac	caccacacag	atgacagcaa	tctgaatt	358

<210> 315

<211> 341

<212> DNA

<213> Homo sapien

<400> 315

taccacctcc	ccgctggcac	tgatgagccg	cctcaccatg	gtcaccagca	ccatgaaggc	60
atagggtgatg	atgaggacat	ggaatgggcn	cccaaggatg	gtctgtccaa	agaagcgagt	120
gacccccatt	ctgaagatgt	ctggaacctc	taccagcagg	atgatgatag	ccccaatgac	180
agtcacagc	tcccgacca	gccgatatc	gtccttaggg	gtcatgtagg	cttccctgaag	240
tagcttctgc	tgtaagaggg	tgttgcctcg	gggctcgtg	cggttattgg	tcctgggctt	300
gagggggcgg	tagatgcagc	acatggtgaa	gcagatgatg	t		341

<210> 316

<211> 151

<212> DNA

<213> Homo sapien

<400> 316

aguctgggca	agactcttcc	gccccacac	gcaatttggg	cttgltgccc	tatccattta	60
tgtgggccc	tctcgacttt	ctgattataa	acacccactg	agcgatgtgt	tgaclggact	120
uattcagggg	gctctgggtg	caatatagtt	t			151

<210> 317

<211> 151

<212> DNA

<213> Homo sapien

<400> 317

agaactagtg	gacctaagt	aaatacctga	aacatatatt	ggcattttatc	aatggctcaa	60
atcttcattt	atctctggcc	ttaaccctgg	ctcctgaggg	tggggccagc	agatcccagg	120
ccagggctct	gttcttgcca	caactgcttg	a			151

<210> 318
 <211> 151
 <212> DNA
 <213> Homo sapien

<400> 318
 actggtggga ggcgtgttt agttggctgt ttccagaggg gtctttcgga gggacctcct 60
 gctgcaggct ggagtgcttt tatccctggc gggagaccgc acattccact gctgaggctg 120
 tgggggcggg ttatcaggca gtgataaaca t 151

<210> 319
 <211> 151
 <212> DNA
 <213> Homo sapien

<400> 319
 aactagtggg tccagagcta taggtacagt gtgatctcag ctttgcaaac acattttcta 60
 catagatagt actagggtatt aatagatatg taaagaaaga aatcacacca ttaataatgg 120
 taagattggg tttatgtgat tttagtgggt a 151

<210> 320
 <211> 150
 <212> DNA
 <213> Homo sapien

<400> 320
 aactagtggg tccactagtc cagtgtgggt gaattccatt gtgttggggt tctagatcgc 60
 gagcggctgc cctttttttt ttittttttt ggggggaatt tttttttttt aatagttatt 120
 gagtgttcta cagettacag taaataccat 150

<210> 321
 <211> 151
 <212> DNA
 <213> Homo sapien

<400> 321
 agcaactttg tttttcatcc aggttatctt aggcttagga tttctctca cactgcagtt 60
 tagggtagga ttgtaaccag ctatggcata ggtgtcaacc aaaggctgag taaacatggg 120
 tgcctctgag aaatcaaatg ctccatacac t 151

<210> 322
 <211> 151
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1}...{151}
 <223> n = A, T, C or G

<400> 322
 atccagcacc ttctcctgtt tcttgccttc cttttcttcc ttcttaabatt ctgcttgagg 60
 tttgggcttg gtcagtttgc cacagggttt ggagatggtg acagtcttct ggcattcggc 120
 attgtgcagg gctcgttcca nacttccagt t 151

<210> 323
 <211> 151
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature

<222> (1)...(151)

<223> n = A,T,C or G

<400> 323

tgaggacttg	tktttttttt	ctttatttll	eatcctctta	ckttgttaa	atattgcta	60
nagactcant	tactaccoag	tttgttggtt	twtgaggaga	atgtaactgg	acagttagct	120
gttcaatyaa	aaagacactt	ancccatgkg	g			151

<210> 324

<211> 461

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> (1)...(461)

<223> n = A,T,C or G

<400> 324

acctgtgtgg	aatttcagct	ttcctcatgc	aaaaggattt	tgtatccccg	gectacttga	60
agaagtgttc	agctaaagga	atccaggttg	ttggttggac	tgttaatacc	tttgatgaaa	120
agagttacta	ogaatcccat	cttggttcca	gtatatcac	tgacagcatg	gtagaagact	180
gcgaacctca	cttctagact	ttcacggttg	gacgaacgg	gttcagaaac	tgcuaggggc	240
ctcatacagg	gatataaaaa	taccccttgt	gtacccagg	ccctggggaa	tcaggtgact	300
cacacaaatg	caatagtttg	tcaactgcatt	tttacctgaa	ccaaagctaa	acccggtgtt	360
gccaccatgc	accatggcat	gccagagttc	aaactgtttg	ctcttgaaaa	ttgggtctlg	420
aaaaacgcac	aagagccct	gccctgccct	agclgagaca	c		461

<210> 325

<211> 400

<212> DNA

<213> Homo sapien

<400> 325

acaactgtttc	catgtttatgt	ttctacacat	tgtacacctca	gtgtctcttg	aaacttagct	60
tttgatgtct	ccaagtagtc	caacttcatt	taactotttg	aaaactgtatc	atctttgcca	120
agtaagagtg	gtggcctatt	tcagctgctt	tgacaaaatg	actggctcct	gaettaactg	180
tcataaaatg	aactgtctga	agcaaatgtc	ccatgttggt	ggcgaagaa	agaaagatct	240
gttttgtttt	ggactctctg	tggtcccttc	caatgtctgt	gggttccaa	caggggaagg	300
gtcccttttg	cattggcaag	tgccataaac	atgagcacla	cgtacccatg	gttctgccc	360
ctggccaaag	aggtctgctt	gcaagatga	aatqaatgat			400

<210> 326

<211> 1215

<212> DNA

<213> Homo sapien

<400> 326

ggaggactgc	agcccgcaact	cgcagccctg	gcaggcgcca	ctggtcattg	aaaacgaatt	60
gttctgtctg	ggcgtccttg	tgcctccgca	gtgggtgctg	tcagccgcac	actgtttcca	120
gaactcctac	accatcgggc	tgggcctgca	cagtcttgag	gcgcaccaag	agccagggag	180
ccagatgggtg	gaggccagcc	tctccgtacg	gcacccagag	tacaacagac	ccttgcctcg	240
taacgacctc	atgctcatca	agttggacga	atccgtgtcc	gagtctgaca	ccatccggag	300
catcagcatt	gttccgcagt	gccctaccgc	ggggaaactct	tgcctcgttt	ctggctgggg	360
tctgtctggc	aacggcagaa	tgcctaccgt	gtgcagtgc	gtgaacgtgt	cgggtgtctc	420
tgaggaggctc	tgcagtaagc	tctatgaccc	gtgtgaccac	cccaguatgt	tctgocccgg	480
cggaggggcaa	gaccagaagg	actcctgcaa	cggtagctct	ggggggcccc	tgatctgcac	540
cggttacttg	cagggccttg	tgtctttcgg	aaaagccccc	tgtggcccaa	ttgcctgtcc	600
aggtgtctac	accaaactct	qcaaatctac	tgaglggata	gagaaaaacc	tccagggcag	660
ttactctctg	ggactgggaa	ccualqaaat	tgaccccca	alacal.cctg	cgggaaggaa	720
tcagggaatat	ctgttcccg	ccctcctcc	ctcaggccca	ggagtccagg	ccccagcc	780
ctcctccclc	aaaccaagg	tacagatccc	cagccctccc	tccctcagac	caggaggtcc	840

97

```

agacccccca gccctctctc cctcagaccc aggagtcacg cccctcctcc ctacagaccca 900
ggagtcacaga cccccagacc cctcctccct cagacccagg ggtccaggcc cccacccccct 960
cctccctcag actcagaggt ccaagccccc aacccctcct tcccagacc cagaggtcca 1020
ggtcccagcc cctcctccct cagacccagg ggtccaatgc cactagact ctccctgtac 1080
acagtgcccc ctgtgtggac gttgacccaa ccttaccagt tggtttttca ttttttglcc 1140
cttcccccta gatccagaaa taaagtctaa gagaagcgca aaaaaaaaaa aaaaaaaaaa 1200
aaaaaaaaaa aaaaaa 1215

```

<210> 327
 <211> 220
 <212> PRT
 <213> Homo sapien

```

<400> 327
Glu Asp Cys Ser Pro His Ser Gln Pro Trp Gln Ala Ala Leu Val Met
1      5      10      15
Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp Val
20     25     30
Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu Gly
35     40     45
Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val Glu
50     55     60
Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro Leu Leu Ala
65     70     75     80
Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser Asp
85     90     95
Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly Asn
100    105    110
Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly Arg Met Pro
115    120    125
Thr Val Leu Gln Cys Val Asn Val Ser Val Val Ser Glu Glu Val Cys
130    135    140
Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe Cys Ala Gly
145    150    155    160
Gly Gly Gln Asp Gln Lys Asp Ser Cys Asn Gly Asp Ser Gly Gly Pro
165    170    175
Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe Gly Lys Ala
180    185    190
Pro Cys Gly Gln Val Gly Val Pro Gly Val Tyr Thr Asn Leu Cys Lys
195    200    205
Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Ala Ser
210    215    220

```

<210> 328
 <211> 234
 <212> DNA
 <213> Homo sapien

```

<400> 328
cagctcgtctc tggtagctgc agccaaatca taaacggcga ggactgcagc ccgcactcgc 60
agccctggca ggcggcactg gtcattgaaa acgaattgtt ctgctcgggc gtcctgggtgc 120
atccgcagtg ggtgctgtca gccacacact gtttcagaa ctctacacc atcgggctgg 180
gcctgcacag tcttgaggcc gaccaagagc caggagacca gatggtggag gcc 234

```

<210> 329
 <211> 77
 <212> PRT
 <213> Homo sapien

```

<400> 329
Leu Val Ser Gly Ser Cys Ser Gln Ile Ile Asn Gly Glu Asp Cys Ser
1      5      10      15

```

98

Pro His Ser Gln Pro Trp Gln Ala Ala Leu Val Met Glu Asn Glu Leu
 20 25 30
 Phe Cys Ser Gly Val Leu Val His Pro Gln Trp Val Leu Ser Ala Thr
 35 40 45
 His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu Gly Leu His Ser Leu
 50 55 60
 Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val Glu Ala
 65 70 75

<210> 330
 <211> 70
 <212> DNA
 <213> Homo sapien

<400> 330
 cccacacacg tggcccgatc caatccctga ctccgccttc aggatcgctc gtctctggta 60
 gctgcagcca 70

<210> 331
 <211> 22
 <212> PR1
 <213> Homo sapien

<400> 331
 Gln His Asn Gly Pro Ile Pro Ser Leu Thr Pro Pro Ser Gly Ser Leu
 1 5 10 15
 Val Ser Gly Ser Cys Ser
 20

<210> 332
 <211> 2507
 <212> DNA
 <213> Homo sapien

<400> 332
 tgggtgcgct gcagccggca gagatgggtg agctcatgtt cccgctgttg ctctctcttc 60
 tgcccttctc tctgtatatg gctgcgcccc aaatcaggaa aatgctgtcc agtggggtgt 120
 gtacatcaac tgttcagctt cctgggaaag tagttgtggt cacaggagct aatacaggta 180
 tcgggaaggga gacagccaaa gagctggctc agagaggagc tcgagtatat ttagcttgcc 240
 gggatgtgga aaagggggaa ttggtggcca aagagatcca gaccacgaca gggaaccagc 300
 aggtgttggt gcggaaactg gacctgtctg ataactaagtc tattcgagct tttgctaagg 360
 gcttutttagc tgaggaaaaq cacctccacg ttttgatcan caatgcaggga gtgatgatgt 420
 gtccgtactc gaagauagca gatggctttg agatgcacat aggatgcacc cacttggttc 480
 acttctctct aacccaalclq ctgctagaga aactaaggga alcaagccca tcaaggatag 540
 taactgtgtc ttccctcgca calcaactgy gaaggatcca ctccalaa ctcgaaggcg 600
 agaatctcta caatgcaggc ctggcctact gtccagcagc gctagccacc atctcttca 660
 ccagggaact ggcccgagga ctaaaaggct ctggcgttac gacgtattct gacaccctg 720
 gcacagtcca atctgaactg gttcggcaact catctttcat gagatggatg tggtggttt 780
 tctcttttt catcaagact cctcagcagg gaggccagac cagcctgcac tgtgccttaa 840
 cagaaggtct tgagattcta agtgggaatc atttcagtga ctgtcatgtg gcatgggtct 900
 ctgcccagc tcgtaatgag actatagcaa ggcggtgtg ggacgtcagt tgtgacctgc 960
 tgggctctcc aatagactaa caggcagtg cagttggacc caagagaaga ctgcagcaga 1020
 ctacacagta ctctctgtca aaatgattct ccttcaagggt tttaaaaacc tttagcacia 1080
 agagagcaaa accttcagc ctltgcctgt tgggtgtccag tttaaactca gtgtactgcc 1140
 agattcgtct aaatgtctgt catgtccaga ttacttttg tctgttact gccagagtta 1200
 ctagagatat cataatagga taagaagacc ctcatatgac ctgcacagct cattttcctt 1260
 ctgaaagaaa ctactacctt ggagaatcta agctatagca gggatgattt atgcaaat 1320
 gaactagctt ctttqttcac aattcagttc ctcccaacca accagtcttc acttcaagag 1380
 ggccacactg caacctcagc ttaacatgaa taacaaagac tggctcagga gcagggcttg 1440
 ccaggcatg gtggalcaac ggaggtcagt agttcaagac cagcctggcc aacatggtga 1500
 aacccacct ctactaaaa ttgtgtatat ctttgtgtgt ctctctgtt atgtgtgcca 1560
 agggagttt ttuacsaagt tcaaaavagc cacaataatc agagatggag caaaccagtg 1620

ccatccagtc	tttatgcaca	tgaatgctg	caaagggaag	cagattctgt	atatgttgg	1680
aactacccac	caagagcaca	tgggtagcag	ggaagaagta	aaaaaagaga	aggagaatac	1740
tggaagataa	tgcacaaaat	gaagggaacta	gttaaggatt	aactagccct	ttaaggatta	1800
actagttaag	gattaatagc	naagayatt	aatatgcta	acatagctat	ggagganttg	1860
agggcaagca	cccaggactg	atgaggtctt	aacaaaaacc	agtgtggcaa	aaaaaauaa	1920
aaaaaaaaaa	aaaaatccta	aaaacaaacn	aacaaaaaaa	acaattcttc	attcagaaaa	1980
attatcttag	ggactgatat	tggtaattat	ggtaaattha	ataatatttt	ggggcatttc	2040
cttacattgt	cttgacaaga	ttaaatgttc	tgtgccaaaa	ttttgtattt	tatttgagaa	2100
cttcttatca	aaagtaatgc	tgcdaaggga	agtctaagga	attagtagtg	ttcccatcac	2160
ttgtttggag	tgtgctatcc	taaaagattt	tgatttcctg	gaatgacant	tatattttta	2220
ctttggtggg	ggaaagagtt	ataggaacac	agcttccact	tctgatactt	gtaaaltaal	2280
ctttatttgc	actlqltttg	accaltaagc	tatgtqltta	gaattggtca	ttttacggaa	2340
aaattagaaa	aatlctgala	atagtgcaga	alaaatgaat	laattgtttt	cttaatttat	2400
attgaactgl	caatgacaaa	tcaaaattct	ttctgaltat	ttttgtttct	calttaccag	2460
aataaaacg	caagaattaa	aggttctgat	acaaaaaaga	aaaaaaa		2507

<210> 333

<211> 3030

<212> DNA

<213> Homo sapien

<400> 333

gcaggcgact	tgcgagctgg	gagcgattta	aaacgctttg	gattcccccg	gcctgggtgg	60
ggagagcgag	ctgggtgccc	cttagattcc	cggccccgcg	acctcatgag	ccgacctcg	120
gctccatgga	gccccgcaat	tatgccacct	tggatggagc	caaggtatat	gaaggcttgc	180
tgggagcggg	agggggggcg	aatctggtcg	cccactcccc	tctgaccagc	caccacgcgg	240
cgcctacgct	gatgcctgct	gtcaactatg	cccccttggg	tctgccaggc	tggcgggagc	300
cgcacaaagca	atgccaccca	tgccttgggg	tgcctccagg	gaagtcccca	gctcccgtgc	360
cttatggtta	ctttggaggc	gggtactact	cctgcccagt	gtcccggagc	tgcctgaaac	420
cctgtgcaca	ggcagccccc	ctggcccgct	accctccggg	gaactccca	gcccgggaag	480
agtaccocag	ycgccccact	gagtlctgct	tctctccggg	atatccggga	acctaccagc	540
clafggccag	ttacctggac	gtgtctgtgg	tgcagactct	gggtgctcct	ggagaaccgc	600
gacatgactc	cctgttgcct	gtggacagtt	accagtcttg	ggctctcgct	ggtggctgga	660
acagccagat	gtgttgccag	ggagaacaga	accacccagg	tcccttttgg	aaggcagcat	720
ttgcagactc	cagcgggcag	cacctctctg	agccctggcg	ctttcgtcgc	ggccgcaaga	780
aacgcattcc	gtacagcaag	ggcgagtgcg	gggagctgga	gcgggagtat	gcggctaaca	840
agttcatcac	caaggacaag	aggcgcaaga	tctcggcagc	caccagcctc	tccgagcgcc	900
agattaccat	ctggtttcag	aacgcgcggg	tcaagagaga	gaaggttctc	gccaagggtg	960
agaacagcgc	taccccttaa	gagatctcct	tgcctgggtg	ggaggagcga	aagtgggggt	1020
gtcctgggga	gaccaggaac	ctgccaagcc	caggctgggg	ccaaggactc	tgcctgaagc	1080
cccctagaga	caacacccct	ccagcgccac	tggctgctgg	actgttcttc	aggagcggcg	1140
tgggtaccca	gtatgtgcag	ggagacggaa	cccactgtga	uagcccactc	caacaggqit	1200
cccaagaac	ctggcccagt	cataatcatt	catactgaca	gtggcaataa	tcccgataac	1260
cagtactagc	tgcctatgac	gttagcctua	tattttctal	ctagagctct	gtagagcaact	1320
ttagaaaccc	ctttctatga	ttgagctaat	katgaataaa	tttgggaagg	gatccctttg	1380
cagggaagut	ttctctcaga	ccccccttca	ttacacctct	caccttggtg	acagcaggaa	1440
gactgagga	agggggaacg	gcagattcgt	tgtgtggtcg	tgatgtccgt	ttagcatttt	1500
tctcagclga	aaqctgggtg	ggtggacaat	tgtagaggct	gtctcttctt	ccctccttgt	1560
cuaccccata	gggtgtaccn	actggtcttg	gaagcaccac	tctttaatac	gatgattttt	1620
ctgtcgtgtg	aaaatgaagc	cagcaggtcg	ccccttagta	gtccttccct	ccagagaaaa	1680
agagatttga	gaaggtgcct	gggttaattca	ccattaatth	cctcccccac	actctctgag	1740
lnttccctta	atatttcttg	tggttctgac	caaagcaggt	catgggttgt	ttagcatttg	1800
ggatcccagt	gaagtagatg	ttttagacct	tgcatactta	gcccctccca	ggcacaacag	1860
gagtggcaga	gtggtgccaa	ccctgttttc	ccagtccacg	tagacagatt	ccagtgccgg	1920
aattctggaa	gctggagaca	gacgggctct	ttagcagagc	gggactctga	gagggacatg	1980
agggcctctg	cctctgtgtt	cattctctga	tgtcctgtac	ctgggctcag	tgcctgggtg	2040
gactcatctc	ctggccgcgc	agcaaaagca	gogggttgat	gctggctcct	cctgcacctt	2100
aggtctgggg	tggggggcct	gccggcgcat	tctccatgat	tgaagcgaca	ggcctgaagt	2160
ctggacaacc	cgcagaaccc	aagctccgag	cagcgggtcg	gtggcgagta	gtggggtcgg	2220
tggcagacag	ttggtggtgg	gccggcgccg	ccactacctc	gaggaacatt	ccctcccgga	2280
gccagctctc	ctagaaaccc	cgcggcgccg	gccgcagcca	agtggtlctg	gccccggtc	2340
gggtgggato	ctagccctgt	ctcctctcct	gggaaggagt	gaggggtggg	cgtgacclag	2400

100

acacctacaa	atctattttac	caaaagaggag	ccccgggactg	aggggaaaagg	ccaaagaggtg	2460
tgagtgcattg	cggactggggg	gttcaggggga	aggggacgag	gaggggggaag	atgaggtcga	2520
tttccgtgatt	taaaaaatcg	tccaaagcccc	gtgggtccagc	liaagggtcct	cggttacatg	2580
cgccgctdag	agcaggtcac	tttctgcctt	ccacgtctctc	cttcaaggaa	gccccatgtg	2640
ggtagctttc	aatatcgong	gttcttactc	ctctgcctct	ataagctcaa	acccaccaac	2700
gatcgggcac	gtaaaacccc	tccctcgccg	acttcgggac	tggcgagagt	tcagcgcaqa	2760
tgggctgtg	gggagggggc	aagatagatg	agggggagcg	gcattggtgcg	gggtgacccc	2820
ttggagagag	gaaaaaggcc	acaaagagggg	ctgccacrgc	cactaagga	gatggccctg	2880
gtagagacct	ttgggggtct	ggaacctctg	gactccccat	gctctaacte	ccacactctg	2940
ctatcagaaa	cttaaaacttg	aggattttct	ctgtttttca	ctcgcaataa	aytcagagca	3000
aaacaaaaaa	aaaaaaaazaa	aaaactcgag				3030

<210> 334
 <211> 2417
 <212> DNA
 <213> Homo sapien

qgqggccgct	ctagagctag	tgggatcccc	cgggctgcac	gaattcggca	cgagtgaatt	60
ggagtttttac	ctgtattgtt	ttaattttcaa	caagcctgag	gactagccac	aatgtaccc	120
agttttacaaa	tgaggaaaca	gggtgcaaaa	ggttgtttacc	tgtcaaagggt	cgtatgtggc	180
agagcccaag	tttgagccca	gttatgtctg	atgaacttag	cctatgtctc	ttaaacttct	240
gaatgctgac	cattgaggat	atctaaactt	agatcaattg	cattttccct	ccaagactat	300
ttcttlatca	atcaaatat	accaacttta	ccaatctatc	gttttgatac	gagactcaaa	360
tatgccagat	atatgtaaaa	gcacccctaca	agctctctaa	loatgtctac	ctaaaagalt	420
cccgggatct	aataggtctc	aaqaaacttc	tlctagaaat	ataaaagaga	aaatttgatt	480
atgcasaaat	tcaattattaa	tttttttont	ccatccctta	altcagcaaa	catttatctg	540
ttgttgactt	tatgcagtat	ggccttttaa	ggaltggggg	acaggtgag	aacgggggtgc	600
cagaatgcac	cctcctacta	atggggtcag	tacacatttg	catttttaaa	tgcctgtcc	660
agctgggcat	gggtgatcat	gcctgtaatc	tcacacattg	aaggcccaagg	caggaggatt	720
gcttcagccc	aggagttcaa	gaccagcctg	ggcaacatag	aaagacccca	tctctcaatc	780
aatcautcaa	tgcctgtct	ttgaaaataa	aactctttta	gaaagggtta	atgggcaggg	840
tgtggtagct	cattgctata	atacagcaat	ttgggaggtc	gaggcaggag	gatcaactta	900
gcccagaggt	tcaagaccag	cctgggcaac	aagtgcacac	tcatctcaat	tttttaataa	960
aatggaatca	tacataagga	aaqataaaaa	gaaaagttaa	atgaaagaa	acagtataaa	1020
acaaatctct	tggacctaia	agtatttttg	ttcaagccaa	atattgtgaa	tcacctctct	1080
gtgttgagga	tacagaalat	ctaagcccaag	gaaactgagc	agaaggttca	tgtactaaat	1140
aatcaacccg	agggcaaggca	aaantgggac	taactaatca	atccgaggca	aggggcaaat	1200
tagacggaac	ctgactcttg	ctatlttaagc	gaaaccltcc	cctctgttgt	attttcttll	1260
tattcaattg	aaaaggatag	aaactctctc	aaactaaaaa	caaltglltg	caggagttac	1320
aaacccatgc	caactaatta	tggggcaatc	taaaatctga	ctghatgaga	tcttgatggg	1380
ttacaaagtg	taccractgt	taattcacttt	aaacattaat	gaacttaaaa	atgaatttac	1440
ggagatttga	atgtttcttt	cctgtctgtat	tagtttggtc	aggctgccat	aacaaaaaac	1500
cacagactgg	gaggcttaag	taacagaaat	tcattttctc	cagttctggg	ggctggaagt	1560
ccacgatcaa	ggtgcaggaa	aggcaggctt	cattctgagg	cccctctctt	ggctcacatg	1620
tggccacccct	cccactgcgt	gctcacatga	cctctttgtg	ctcctggaaa	gagggtgtgg	1680
gggacagagg	gaaagagaag	gagagggaac	tctctggtgt	ctcgtctttc	aaggacccta	1740
acctggggcca	ctttggccca	ggcactgttg	ggtggggggg	tgtggctgct	ctgctctgag	1800
tggccaaagat	aaagcaacag	aaaaatgtcc	aaagctgtgc	agcaaagaca	agccacccgaa	1860
cagggatctg	ctcatcagtg	tggggacccct	caagtgggcc	acccctggag	caagccccca	1920
cagagccuat	gcaaggtggc	agcagcagaa	gaagggaatt	gtccctgtcc	ttggcacatt	1980
cctcaccgac	gtggtgatgc	tggacactgc	gatgaatggt	aatgtggatg	agaaatgat	2040
ggactccag	aaaagggagc	ccagctgtct	aggtggctgc	aaatcattac	agccttcate	2100
ctggggaagg	actggggggc	tggttctggg	tcagagagca	gcccagtgag	ggtgagagct	2160
acagccctgtc	ctgcccgtctg	gatccccagt	ccgggtcaac	cagtaataca	ggctgagcag	2220
altcaggtctc	ccggagcttg	tcttgggaag	ccagccctgg	ggtgagttgg	ctcutgctgt	2280
ggtactgaga	caatactgtc	ataatttcaa	tgcgcctctg	tatccctttt	tctlllttal	2340
ctgtctacat	ctatlatcac	talqcatact	aqlcttttgt	agtgtttcta	ttcmaacttaa	2400
tagagatctg	ttctact					2417

<210> 335
 <211> 2984

<212> DNA
<213> Homo sapien

<400> 335

atccctcctt	cccractctc	ctttccagaa	ggcacttggg	gtcttatctg	ttggactctg	60
aaaacacttc	agggccctt	ccaaggcttc	cccaaaccoc	taagcagccg	cagaagcctg	120
cccgagctgc	cttctcccac	actcaggtga	tcgagttgga	gaggaagttc	agccatcaga	180
agtaacctgtc	ggcccrctgaa	cgggcccacc	tggccaagaa	cctcaagctc	acggagaccc	240
aagtgaagat	atggttccag	aacagacgct	ataagactaa	gcgaaagcag	ctctcctcgg	300
agctgggaga	cttgagaaag	cactcctctt	tgcggccoot	gaaagaggag	gccttctccc	360
gggcctccct	ggtctccgtg	tataacagct	atccttacta	cccatacctg	tactgcgtgg	420
gcagctggag	cccagctttt	tggtaatgcc	agctcaggtg	acaaccatta	tgatcaaaaa	480
ctgccttucc	cagggtgtct	ctatgaaaag	cacaaggggc	caaggtcagg	gagcaagagg	540
tgtgcacacc	aaagctattg	gagatttgcg	tggaaatctc	asattcttca	ctggtgagac	600
aatgaacaa	cagagacagt	gaaagtttta	atacctaagt	cattccccc	gtgcatactg	660
taggtcattt	tttttgcctc	tggctacutg	tttgaggggg	agagagggga	aalcaaglqg	720
tattttccag	cactllgtat	gattttggat	gagctgtaca	cccaaggalt	ctgttctgca	780
actccalcct	ctgtgtcac	lgaatalcga	ctctgaaaga	gcaaacctaa	caggcgaaag	840
gacaaccagg	atqagggtgt	cccccaactga	atlaaactta	agtcacgaag	cctcctgttg	900
gcccctggaa	atggcccaagg	ctcctctctgt	ccctgtaaaa	gagagggggc	aatagagagt	960
ctccaagaga	acgcccctnat	gctcagcaca	tatttgcctg	ggagggggag	atgggtggga	1020
ggagatgaaa	atatcagctt	ttcttatttc	tttttatttc	ttttaaagtq	gtatgccaac	1080
ttaagtattt	acagggtggc	ccaaatagaa	caagatgcac	tcgctgtgat	tttaagacaa	1140
gctgtataaa	cagaactcca	ctgcaagagg	gggggcccgg	ccaggagaat	ctccgcttgt	1200
ccaagacagg	ggcctaagga	gggtctccac	actgctgcta	gggctgttg	cattttttta	1260
ttagtagaaa	gtggaagggc	ctcttctcaa	cttttttccc	ttgggctgga	gaatttagaa	1320
tcagaagttt	cctggagttt	tcaggctatc	atatatactg	tatcctgaaa	ggcaacataa	1380
ttcttccctc	cctcctttta	aaattttgtg	ttcctttttg	cagcaattac	tcactaaaag	1440
gcttcatttt	agtcacagatt	tttagtctgg	ctgcaactaa	cttatgcttc	gcttatttag	1500
cccgagatct	ggtctttttt	tttttttttt	tttttccgtc	tcocccaaagc	tttatctgtc	1560
ttgactlllt	aaaagaagttt	gggggccaagt	tutgaallqg	ctaaaagaca	tgcalttltta	1620
aaactagcaa	ctottallto	tttccctttaa	aaalacataag	catcaaatcc	caaatccctat	1680
ttaaagacoc	gacagcttga	gaaggltcant	actgccttta	taaggacctc	tgggtggttct	1740
gclqttacgt	ttgaagltctg	acaactccttg	agaaactttg	catgcagagg	aggttaagagg	1800
tattggatlt	tcacagaggga	agaaacacagc	gcagaaatgaa	gggccaggct	tactgagctg	1860
tccagtggag	ggctcatggg	tgggacatgg	aaaagaaggc	agcctaggcc	ctggggagcc	1920
cagtrcactg	agcaagcaag	ggactgagtg	agccttttgc	agggaaaaggc	taagaaaaag	1980
gaaaaccatt	ctaaaacaca	acaagaaaact	gtccaaatgc	tttgggaact	gtgtttattg	2040
cctataatgg	gtcccccataa	tgggttaacct	agacttcaga	gagaatgagc	agagagcaaa	2100
ggagaaatct	ggctgtcctt	ccattttcat	tctgttatct	cagggtgagct	ggtagagggg	2160
agacattaga	aaaaaatgaa	acaaacaaac	aattactaat	gaggtacgct	gaggcctggg	2220
agtctcttga	ctccactact	taattccgtt	tagtgagaaa	cctttcaatt	ttcttttatt	2280
agaaggggcca	gcttactgtt	ggtggcaaaa	ttgocaaat	aagttaatat	aaagttggcc	2340
aatttcaccc	cattttctgt	ggtttgggct	ccacattgca	atgttcaatg	ccacgtgctg	2400
ctgacaccga	ccggagtact	agccagcaca	aaaggccagg	tagcctgaat	tgtttctgct	2460
tctttacatt	tcttttaaaa	taagcattta	gtgtcagtc	cctactgagt	actctttctc	2520
tccctctctc	tgaatttaut	tctttcaact	tqcaatttgc	aaggatlaaa	catttcaactg	2580
tgtgttatat	tgtgttgcaa	aaaaaaaaaa	aaagtgtclt	gtttaaaat	acttgggttg	2640
tgaatccatc	tlgclttttc	cccatttggaa	ctaglcatta	ccccctclct	gaactggtag	2700
aaaaacalcct	gaagagctag	ctctlcagca	tctgacagyt	gaaltggatg	gttctcagaa	2760
cnatttcacc	cagacagncct	gttctctatcc	tgtttaatga	attagtttqg	gttctctcag	2820
tgcataacaa	acccctgctcc	aatctgtcac	ataaaagtct	gtgacttgaa	gtllagtcaq	2880
caccccccacc	aaactttatt	tttctatgtg	ttttttgcaa	catatgagtg	ttttgasaat	2940
aaagkaccca	tgtcttctatt	agaaaaaaaa	aaaaa			2984

<210> 336
<211> 147
<212> PRT
<213> Homo sapien

<400> 336

Pro Ser Phe Pro Thr Leu Leu Ser Arg Arg His Leu Gly Ser Tyr Leu

102

```

1           5           10           15
Leu Asp Ser Glu Asn Thr Ser Gly Ala Leu Pro Arg Leu Pro Gln Thr
20           25           30
Pro Lys Gln Pro Gln Lys Arg Ser Arg Ala Ala Phe Ser His Thr Gln
35           40           45
Val Ile Glu Leu Glu Arg Lys Phe Ser His Gln Lys Tyr Leu Ser Ala
50           55           60
Pro Glu Arg Ala His Leu Ala Lys Asn Leu Lys Leu Thr Glu Thr Gln
65           70           75           80
Val Lys Ile Trp Phe Gln Asn Arg Arg Tyr Lys Thr Lys Arg Lys Gln
85           90           95
Leu Ser Ser Glu Leu Gly Asp Leu Glu Lys His Ser Ser Leu Pro Ala
100          105          110
Leu Lys Glu Glu Ala Phe Ser Arg Ala Ser Leu Val Ser Val Tyr Asn
115          120          125
Ser Tyr Pro Tyr Tyr Pro Tyr Leu Tyr Cys Val Gly Ser Trp Ser Pro
130          135          140
Ala Phe Trp
145

```

```

<210> 337
<211> 9
<212> PRT
<213> Homo sapien

```

```

<400> 337
Ala Leu Thr Gly Phe Thr Phe Ser Ala
1           5

```

```

<210> 338
<211> 9
<212> PRT
<213> Homo sapien

```

```

<400> 338
Leu Leu Ala Asn Asp Leu Met Leu Ile
1           5

```

```

<210> 339
<211> 318
<212> PRT
<213> Homo sapien

```

```

<400> 339
Met Val Glu Leu Met Phe Pro Leu Leu Leu Leu Leu Pro Phe Leu
1           5           10           15
Leu Tyr Met Ala Ala Pro Gln Ile Arg Lys Met Leu Ser Ser Gly Val
20           25           30
Cys Thr Ser Thr Val Gln Leu Pro Gly Lys Val Val Val Val Thr Gly
35           40           45
Ala Asn Thr Gly Ile Gly Lys Glu Thr Ala Lys Glu Leu Ala Gln Arg
50           55           60
Gly Ala Arg Val Tyr Leu Ala Cys Arg Asp Val Glu Lys Gly Glu Leu
65           70           75           80
Val Ala Lys Glu Ile Gln Thr Thr Thr Gly Asn Gln Gln Val Leu Val
85           90           95
Arg Lys Leu Asp Leu Ser Asp Thr Lys Ser Ile Arg Ala Phe Ala Lys
100          105          110
Gly Phe Leu Ala Glu Glu Lys His Leu His Val Leu Ile Asn Asn Ala
115          120          125
Gly Val Met Met Cys Pro Tyr Ser Lys Thr Ala Asp Gly Phe Glu Met

```

130	135	140
His Ile Gly Val Asn	His Leu Gly His Phe Leu	Leu Thr His Leu Leu
145	150	155
Leu Glu Lys Leu Lys	Glu Ser Ala Pro Ser Arg	Ile Val Asn Val Ser
165	170	175
Ser Leu Ala His	Leu Gly Arg Ile His Phe His	Asn Leu Gln Gly
180	185	190
Glu Lys Phe Tyr Asn	Ala Gly Leu Ala Tyr Cys His	Ser Lys Leu Ala
195	200	205
Asn Ile Leu Phe Thr	Gln Glu Leu Ala Arg Arg	Leu Lys Gly Ser Gly
210	215	220
Val Thr Thr Tyr Ser	Val His Pro Gly Thr Val	Gln Ser Glu Leu Val
225	230	235
Arg His Ser Ser Phe	Met Arg Trp Met Trp Trp	Leu Phe Ser Phe Phe
245	250	255
Ile Lys Thr Pro Gln	Gln Gly Ala Gln Thr Ser	Leu His Cys Ala Leu
260	265	270
Thr Glu Gly Leu Glu	Ile Leu Ser Gly Asn His	Phe Ser Asp Cys His
275	280	285
Val Ala Trp Val Ser	Ala Gln Ala Arg Asn Glu	Thr Ile Ala Arg Arg
290	295	300
Leu Trp Asp Val Ser	Cys Asp Leu Leu Gly Leu	Pro Ile Asp
305	310	315

<210> 340
 <211> 483
 <212> DNA
 <213> Homo sapien

<400> 340

gcccaggtct	gccttcacac	gggggacacg	agactgcttc	ctcaagggct	cctgcctgcc	60
tggcactgg	tgggagggcg	tgtttagtgg	gctgttttca	gaggggtctt	tgggagggac	120
ctcctgctgc	aggtctgggt	gltttttatc	ctggcgggag	accgcacatt	ccactgctga	180
ggttgtaggg	gcggtttatc	aggcagtgat	aaacataaga	tgtcatttcc	ttgactccgg	240
ccttcaattt	tctctttggc	tgacgacgga	gtccgtgggt	tccgatgta	actgacccct	300
gctccaaacg	tgacatcact	gatgctcttc	tggggggtgc	tgatggcccg	cttggtcacg	360
tgtcfaatct	cgcatttcga	ctcttgctcc	aaactgtatg	aagacacctg	actgcacgtt	420
ttttctgggc	ttccagaatt	taaagtgaag	gggagcactc	ctaagctccg	actccgatgc	480
ctg						483

<210> 341
 <211> 344
 <212> DNA
 <213> Homo sapien

<400> 341

ctgctgctga	gtcacagatt	tcattatcaa	tgccttcctc	aaggaaasta	cactgaatgc	60
tattlltact	aacattctca	littalaga	aatagctgag	agtttctaaa	ccaactctct	120
gctgcctkac	aaglatkaaa	tattttactt	ctttccataa	agagttagctc	aaaatatgca	180
attaallkac	caatttctga	tgatggtttt	atctgcagta	atatgtatat	catctattag	240
aatttactta	atgaaaaact	gaagagaaca	aaattttgaa	ccactagcac	ttaagtactc	300
ctgallctta	acattgtctt	taatgaccac	aagacaacca	acag		344

<210> 342
 <211> 592
 <212> DNA
 <213> Homo sapien

<400> 342

acagcaaaaa	agaaactgag	aagcccaaty	tgttttcttg	ttaacatcca	cttatccaac	60
caatgtggaa	acttcttata	cttgggtcca	ttatgaagtt	ggacaattgc	tgcctacaca	120
cctggcaggt	aaaccaatgc	caagagagtg	atggaaacca	ttggcaagac	tttgttgatg	180

accaggattg	gaattttata	aaaatatattgt	tgatgggaag	ctgctaaag	gtgaattact	240
tccctcagaa	gagtgtaaag	aaaagtcaga	gatgctataa	tagcagctat	tttaattggc	300
aagtgcact	gtggaagag	ttcctgtgtg	tgtgaagtt	ctgaaggga	gtcaaatca	360
tcagcatggg	ctgtttggtg	caaatgcaaa	agcacaggtc	tttttagcat	gctggctct	420
cccggtgctt	tatgcaaata	atcgtcttct	tctaaatttc	tcctaggctt	cattttccaa	480
agttctctct	ggttgtgat	gtctttctg	ctttccatta	attctataaa	atagtatggc	540
ttcagccacc	cactcttcgc	cttagcttga	ccgtgagtct	cggctgcgcg	tg	592

<210> 343
 <211> 382
 <212> DNA
 <213> Homo sapien

ttcttgacct	cctcctcctt	caagctcaaa	caccaccacc	cttattcagg	accggcactt	60
cttaattgtt	gtggctttct	ctcagcctc	tcttggggg	ggtaattggt	gagttggcat	120
cttgtaactc	tcctttctcc	tttcttcccc	tttctctgcc	cgcctttccc	atcctgctgt	180
equcttcttg	attgtcagtc	tgtgtcacat	ccagtgtgtg	ttttgggttc	tgttcccttt	240
ctgactgccc	aaggggtcga	gaaccccagc	aatcccttcc	tttcaactacc	ttcttttttg	300
ggggtagttg	gaaaggactg	aaattgtggg	gggaaggtag	gaggcacatc	aataaagagg	360
aaaccaccca	gclgaaaaaa	aa				382

<210> 344
 <211> 536
 <212> DNA
 <213> Homo sapien

ctgggcctga	agctgtaggg	taaatcagag	gcaggcttct	gagtgtatgg	agloctgaga	60
caataggcca	cataaacttg	gctgggtggg	ccctcaccaat	aagggtggtca	cctcttgttt	120
gtttaggggg	atgccaaggga	caaggccagc	tcagtttatat	gaagagaagc	agaacaaaca	180
agtctttcag	agaaalggal	gcaatcagag	tgggatcccg	gtcacatcaa	ggtcacactc	240
caocttcatg	tacctgatg	gttgccagggt	cagaaaaatc	caacccctac	gagtgcggct	300
tcgaacctat	atcccccgcc	cggctccctt	tctccataaa	attcttctta	gtagctatta	360
coltcttalt	atttgatcta	gaatttgccc	tctttttacc	cctaaccatga	gcctacaaa	420
caactaact	gccactaata	gttatgtcat	ccctcttatt	aatcatcatc	ctagccctaa	480
gtctggccta	tgagtgaata	caaaaaggat	tagactgagc	cgaataacaa	aaaaaa	536

<210> 345
 <211> 251
 <212> DNA
 <213> Homo sapien

accttttgag	gtctctctca	ccacctccac	agccaccgtc	accgtgggat	gtgctggatg	60
tgaatgaagc	ccccatcttt	gtgcctccctg	aaaagagagt	ggaagtgtcc	gaggactttg	120
gctgtgggca	ggaaalcaaa	tccctacactg	cccaggagcc	agacacattt	atggaacaga	180
aaataacata	loggaatttg	agagagactg	ccaactggct	ggagattaat	ccggacactg	240
gtgccatttc	c					251

<210> 346
 <211> 282
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(282)
 <223> n = A,T,C or G

<400> 346	ccgctctctg	acactgtgat	catgacaggg	gttcaaacag	aaagtgcctg	ggccctcctt	60
-----------	------------	------------	------------	------------	------------	------------	----

ctaagtcttg	ttcccaaaa	aaggaabaag	aaaagatctt	ctcagttaca	aattctggga	120
agggagac	taccgggtc	ttgccctaag	tgagggtct	tccctccgc	acaaaaaat	180
agaaaggctt	tctattcac	tgcccaggt	agggggaagg	agagtaactt	tgagtcgtg	240
ggtctcat	cccaagggtc	cttcaatgct	catnaaacc	aa		282

<210> 347

<211> 201

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> (1)...(201)

<223> n = A,T,C or G

<400> 347

acacacataa	tattataaaa	tgccatctaa	ttggaaggag	ctttctatca	ttgcaagtca	60
taaatataac	ttttaaaaana	ntactancag	cttttaccta	ngctcctaaa	tgcttgtaaa	120
tctgagactg	actggaccca	cccagaccca	gggcaagat	acatgttacc	atatcatctt	180
tataaagaat	ttttttttgt	c				201

<210> 348

<211> 251

<212> DNA

<213> Homo sapien

<400> 348

ctgttaatac	caacatttgt	gcataccttg	tgccaagtga	gaaaatgttc	taaaatcaca	60
agagagaa	gtgccaagat	gaaactgacc	ctaagtcaca	ggtgcccctg	ggcaggcaga	120
aggagacact	cccagcatgg	aggagggttt	atcttttcat	cctaggtcag	gtctacaatg	180
ggggaagggt	ttattataga	actcccaaca	gccacactca	ctcctgccc	cccccagatg	240
gcccctgctc	c					251

<210> 349

<211> 251

<212> DNA

<213> Homo sapien

<400> 349

taaaaalcaa	gccatttcat	tgtatctttg	aaggtaacaa	atatatggga	gctggatcac	60
aacccctgag	gatgccagag	ctatgggtcc	agaacatggt	gtggtattat	caacagagtt	120
caggaagggtc	tgaactctac	gtgttaccag	agaacataat	gcaattcatg	cattccactt	180
agcaattttg	taaaatacca	gaaacagacc	ccaagagtct	ttcaagatga	ggaaaattca	240
actcctggtt	t					251

<210> 350

<211> 908

<212> DNA

<213> Homo sapien

<400> 350

ctggacactt	tgcgagggtc	tttgctggct	gttctgtctg	cccgctatgc	tactcatcgt	60
agcccgcccg	gtgaagctcg	ctgctttccc	tacctcctta	agtgaatgcc	aaacqcccac	120
cggctggaa	tgtcttggtt	atgatgacag	agaaatgat	ctcttccctc	gtgacaccaa	180
cacctgtaaa	tttgatgggg	uatgttlaag	aattggagac	acigtgactt	gcgtctgtca	240
gttcaagtgc	aacaatgact	atgtgcctgt	gtglagctcc	aatggggaga	gctaccagaa	300
tgagtgttac	ctgcgacug	ctgcctqcaa	acagcagagt	gagatacttg	tgggtgcaga	360
aggatcatgt	gccacagttc	algaaggtc	tggagaaaat	agtcaaaagg	agacatccac	420
ctgtgatatt	tgcagttttg	gtagcagaatg	tgcagagat	gccgaggatg	tctggtgtgt	480
gtgtaatatt	gautgttcl	aaaccaaactt	caatcccttc	tgcgtctctg	atgggaaatc	540
ttatyataal	gcaltqcaaa	tcaagaagac	atcgtgtcag	aaacaggaga	aaattgaagt	600
catgtctttg	agtcgctgtc	aagataaacac	aactacaact	actaagtctg	aagatgggca	660

106

ttatgcaaga	acagattatg	cagaguantgc	taacaaatta	gaaggaagtg	ccagaggaaca	720
ccacatacct	tgtccgggaa	attacaatgg	cttctgcagt	catgggaagt	gtgagccttc	780
tatcaatatg	caggagccat	cttgcaggtg	tgatgctggg	tatactggac	aaccctgtga	840
aaaaaaggac	tacagtgttc	tatacgttgt	tcccggctcc	gtacgalttc	agtatgtctt	900
aatgcag						908

<210> 351
 <211> 472
 <212> DNA
 <213> Homo sapien

<400> 351						
ccagttattt	gcaggtgtt	agagcctatt	taccataaast	aatactaaga	accaactcaa	60
gtccaaacct	aatgcccttg	ttattgtgaa	ttaggettaa	gtagttaatt	tcaaaattca	120
catttaacttg	attttaaast	cagwtttgyg	agtcatttac	cacaagctaa	atgtgtacac	180
tatgetaaaa	acaaaccttg	tattcctgtt	tttctaaca	gtcctaattt	ctaacaactgt	240
atatacctt	cgacatcaat	gaactttgtt	ttcttttact	ccagtaataa	agtaggcaca	300
gatctgtcca	caacaaactt	gccctctcat	gccttgcttc	tcaccatgct	ctgctccagg	360
tcagcccccct	tttggcctgt	ttgttttgtc	aaaaacctaa	tctgcttctt	gottttcttg	420
gtaatatata	tttaggggag	atgttgcttt	gccacacac	gaagcaaatg	aa	472

<210> 352
 <211> 251
 <212> DNA
 <213> Homo sapien

<400> 352						
ctcaaaagcta	atctctcggg	aatcaaacua	gaaagaggca	aggaatttaq	gcattggtgg	60
tgtggataag	gccaggtcua	tggctgcagg	catgcagagg	aagaggtaca	tcggggcgtg	120
caggctgcgt	tccgtccctt	cgatgaagac	cacgatgcag	tttccaaaca	ttgccactac	180
ctacatggaa	aggagggggg	agccaaccca	gaaatgggct	ttctctaata	ctgggatacc	240
aataagcaca	a					251

<210> 353
 <211> 436
 <212> DNA
 <213> Homo sapien

<400> 353						
tttttttttt	tttttttttt	ttttttaaaa	caatgcagtc	atttatattat	tgagtatgtg	60
cacattatgg	tattattact	atactgatta	tatttatcat	gtgacttcta	atlaraaaat	120
gtatccaaau	gcaaaaacagc	agatatacaa	aalcaagag	acagaagata	gacattaaac	180
gataaggcaa	cttatacatt	gacaaacca	atccaataca	tttaaacctt	tcgggaalqa	240
gggggaacaa	tggaagccar	atcaaatctg	tgttaaaacta	ttcaglatgt	ttccttgcct	300
tcattgtctga	raaggcclct	cottcaatgg	ggatgacaaa	clccaatgac	cacacaaatg	360
llaacagaa	actagattca	cactggaacg	ggggtaaaqa	agaaattatt	ttctataaaa	420
gggctcctaa	tgtagt					436

<210> 354
 <211> 854
 <212> DNA
 <213> Homo sapien

<400> 354						
ccttttctag	ttcaccagtt	ttctgcaagg	atgctggtta	gggagtgtct	gcaggaggag	60
caagtctgaa	accaaatacta	ggaacatag	gaaacagacc	aggcacaggg	ctgggtggcc	120
atcagggacc	acccttttggg	ttgatatttt	gcttaattctg	catcttttga	gtaagatcat	180
ctggcagtag	aagctgttct	ccaggtacat	ttctctagct	catgtacaaa	aacatcctga	240
aggactttgt	caggtgcctt	gctaaaagcc	agatgcgttc	ggcaactcct	tggtctgagg	300
ttaattgcac	acctacaggc	actgggctca	tgctttcaag	tattttgtcc	tcactttagg	360
gtgagtga	gatccccatt	ataggagcac	ttgggagaga	tcataataaa	gctgactctt	420
gagtacatgc	agtaatgggg	tagatgtgtg	tggtgtgtct	tcattcctgc	aagggtgctt	480

107

gttagggagt	gtttccagg	ggaacaagtc	tgaabccaat	catgaatat	atggtaggtg	540
tgaactggaa	aactaatca	aaagagagat	cgtagatata	gtgtggttga	tacacettgg	600
caatatggaa	ggctctaat	tgccatatt	tgaataata	attcagcttt	ttgtatata	660
aaataacaaa	ggattgagaa	tcatggtgtc	taatgtata	aagaccagag	aaacataaat	720
atatcaactg	cataaatgt	aaatgcatgt	gacccaagaa	ggccccaasg	tggcagacaa	780
catgttacc	attttccctt	ccaaaatgtg	agcggcgggc	ctgctgcttt	caaggctgtc	840
acacgggatg	tcag					854

<210> 355
 <211> 676
 <212> DNA
 <213> Homo sapien

gaaattaaagt	atgagctaaa	ttccctgtta	aaacctctag	gggtgacaga	tctcttcaac	60
caggtuaaag	ctgatcttct	tggaaatgtc	ccaaccaagg	gcctatatit	atcaaaagcc	120
atcacaaggt	catacctgga	tgtcagcgaa	gagggcacgg	aggcagcagc	agccactggg	180
gacagcatcg	ctgtaaaag	cttaccatgt	agagctcagt	tcaaggcgaa	ccaccccttc	240
ctgttcttta	taaggacac	tcataccaac	acgatcttat	tctgtggcaa	gottgcctct	300
ccctaatcag	atgggggttg	gtaaggctca	gagttgcaga	tgagggtgcag	agacaatcct	360
gtgactttcc	cacggccaaa	aagctgttca	ccctctcagg	acctctgtgc	ctcagtttgc	420
tcatctgcaa	aataaggtct	ggatttcttc	caaccatttc	atgagttgtg	aagctaaggc	480
tttgttaate	atggaaaaag	gtagacttat	gcagaaagcc	ttttgtggtt	tcttatctgt	540
ggtgtctcat	ttgagtgctg	tccagtgcac	tgtccagtc	aalyagtaaa	attttaaggg	600
attagatttt	cttgacttgt	atgtatctgt	gagatcttga	ataagtgacc	tgacatctct	660
gcttaagaa	aaccag					676

<210> 356
 <211> 574
 <212> DNA
 <213> Homo sapien

tcttttttct	ttttccagg	aaacattctc	ttactttatt	tgcattctag	caaaggttct	60
catgtggcac	ctgactggca	tcaaaacaaa	gttcgtaggc	caacaaagt	gggcactca	120
caagcttccc	atttgtaget	ctcagtgcc	atgagtatct	gacacctgtt	cctctcttca	180
gtctcttagg	gaggtctaaa	tctgtctcag	gtgtgtctcc	agtgcacgac	caaggkgtc	240
aaaagtcac	aaaactgcag	tctttgctgg	gtagttaggc	caagcagtc	ctggacagca	300
gagttctttt	cttgggcaac	agataaccag	acaggactct	aatcgtgctc	ttattcaaca	360
ttcttctgtc	tctgcttaga	ctggaataaa	aagccaatct	ctctcgtggc	acagggaaag	420
agatacaagc	togtttacat	gtgatagatc	taacaaaggc	atctaccgaa	gtctggtctg	480
gatagacggc	acagggagct	cttaggtcag	cgctgctggt	tggaggacac	tctgagtc	540
agctttgcag	ctttgtgca	acagtacttt	ccca			574

<210> 357
 <211> 393
 <212> DNA
 <213> Homo sapien

tttttttttt	tttttttttt	tttttttttt	tacagaatat	aratgcttta	tactgkact	60
taatatggkg	kttgttccac	tatacttcaa	aatgcaccaa	tataaatat	ttaattcagc	120
aagcccaaac	caaracttga	ttttatcaa	aaauacccct	aatatataac	ggsaaaaaag	180
atagatataa	ttattccagt	tttttttaaa	cttaaaarat	attccattgc	ogaattaara	240
araaratatg	tgttatatgg	aaagaagggc	alivaaagcc	actaaaraaa	cctgaggkaa	300
gcataactcg	tacaaaatta	aactgtcctt	tttggccttt	tacaaaattt	gcaacgkctc	360
tttttttttt	ttttgttttt	tttttttttt	tac			393

<210> 358
 <211> 630
 <212> DNA
 <213> Homo sapien

108

<400> 358

acaggggttaa	caggaggatc	cttgcctctca	rggagcttac	attctagcag	gaggacaaata	60
ttaatgttta	taggaaaatg	atgagtttat	gacaaaggaa	gtagatagtg	ttttacaaga	120
gcataagagt	gggaagctaa	tccagcacag	ggaggtcaca	gsqacatccc	taagggaagt	180
gagtttaaac	tgaagagagc	aagtgtctaa	actgaaggat	gtgttgaaag	agaagggaag	240
gtagaacaa	ttgggacag	ggaaccttat	agacctaaag	gtgggaagg	tcaagaact	300
gaaagagagc	tageaacagc	ggagccgttc	tccggtgtaa	agaggagtca	aagagataag	360
attaaagatg	tgaagattaa	gatcttggtg	gcattcagg	attggcactt	ctacaagaaa	420
tcactgaagg	gagtaatgtg	acattacttt	tcacttcagg	atggocattc	taactccagg	480
gggtagactg	gactaggtaa	gactggaggc	aggtagacct	cttctaaggc	ctgogatagt	540
gaaagacaaa	aataagtggg	gaaattcagg	ggatagtga	aatcagtagg	acttaatgag	600
caagccagag	gttccctccac	aacaaccagt				630

<210> 359

<211> 620

<212> DNA

<213> Homo sapien

<400> 359

acagcattcc	aaatataaca	tctagaguct	aarrgtaaat	gctctatagt	gaagaagtaa	60
taattaaaa	atgctactaa	tataganaat	ttataatcag	aaaaataaat	attcagggag	120
ctcaccagaa	gaetaaagtg	ctctgccagt	tattaaagg	ttactgctgg	tgaattaaat	180
alggcattcc	ccaaaggaaa	tagagagall	cttctggatt	algttcaata	tttatttcc	240
aggattaaat	gttttaggaa	caqatataaa	gcttcggccac	qgaagagatg	gacaaagcac	300
aaagacaaac	tgateoctta	ggaagcaaca	chaccccttc	aggcalkaaa	tttggagaaa	360
tgcaacatta	lgcttcatga	ataalcatga	gaaagaaagg	ctgatgaaa	lgacatcctt	420
aattgaagat	aactttataa	gaattctggg	tcaaatanaa	ctctttgaag	aaacatcca	480
aattgtcattg	aattatcaaa	tactatcttg	gcataataac	tatgaaggca	aaactaaca	540
aacaaaagc	tcacacccaa	caaaaccatc	aacttatctt	gtattctata	acatacgaga	600
ctgtaaagat	gtgacagtgt					620

<210> 360

<211> 431

<212> DNA

<213> Homo sapien

<400> 360

aaaaaaaaa	agccagaaac	acatgtgata	gataalataa	ttggctgcac	acttcagaa	60
lqatgaatga	tgaacgtgat	ggactattgl	atggagacaa	tcttcagcaa	gaggggga	120
tactcatcat	ttttggccag	cagttgtttg	atcaccacac	atcatgccag	aatactcagc	180
aaaccttctt	agctcttgag	aagtcaaaat	ccgggggaat	ttattcctgg	caattttaat	240
tggactcctt	atgtgagagc	agcggctacc	cagctggggt	gggtggagcga	acccgtcact	300
agtggacatg	cagtggcaga	gctcctggt	accaactaga	ggaatacaca	ggcacatgtg	360
tgatgccaa	cgtgacacct	gtagcactca	aatttgtctt	gtttttgtct	ttcgggtgtg	420
agattcttag	t					431

<210> 361

<211> 351

<212> DNA

<213> Homo sapien

<400> 361

acactgattt	ccgatcaaaa	gaatcatcat	ctttaaecttg	acttttcagg	gaattactga	60
actttctctt	caagaagatg	ggcacagcaa	ttgccttggc	ctcacttgaa	gggtctgcat	120
ttgggtcctc	tggctccttg	ccagtttcc	acgccactcg	agggagaaat	atcggggagt	180
ttgaactcct	ccgggagctt	ccggagggt	tcacccgtga	ccctgcggcc	ctcagggctg	240
caatcctgga	ltcaatgtcl	gaacccctgc	tcctctgctg	ctggacttct	agggcugtca	300
ctgcacactc	gtcctccaga	ctcgaacagc	actcatclgt	ggctcctgttg	t	351

<210> 362

<211> 463

109

<212> DNA

<213> Homo sapien

<400> 362

acttcacag	gccatcatgg	gtgcctcccg	tgagaatcca	agcacctttg	gactgcgcga	60
tgtatgtgag	cgggtgaag	atcttgcgca	tgcgcggctt	cagggcgaag	ttcttggcgc	120
ccccggtcac	agaaatgacc	agggtgggtg	ttttcagggtg	ccagtgcctgg	gtcagcagct	180
cgtaaaggat	ttccgcgtcc	gtgtcgccag	acagacgtat	atacttcctt	ttcttcccca	240
gtgtctcaca	ctgaatatcc	ccaaaggcgt	cggtaggaaa	ttccttgggtg	tgtttcttgt	300
agttccattt	ctcacttttg	ttgatctggg	tgccttccat	gtgctggctc	tgggcatagc	360
cacacttgca	cacattctcc	ctgataagca	cgatggtgtg	gacaggaagg	aaggatttca	420
ttgagcctgc	ttatggaaac	tggtattggt	agcttaata	gac		463

<210> 363

<211> 653

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> (1) . . . [653]

<223> n = A, T, C or G

<400> 363

acccacagag	ncclqncctq	catactgngs	acgaccaacg	acacacccaa	gctcggcctc	60
ctcltqngs	ttctgggtga	catcttcatg	aatggcaacc	gtgccagwga	ggctgtcctc	120
tgggaggcac	tacgcasgat	gggactgcgt	cctgggggtga	gacatccctc	ccttggagat	180
ctaacgaaac	ttctnaccta	tgagttgtaa	agcagaaata	cctgnactac	agacgagtgc	240
ccaacagcaa	ccccccggaa	gtatgagttc	ctctrgggcc	tcogttccta	ccatgagasc	300
tagcaagatg	naagtgttga	gantcattgc	agaggttcag	aaaagagacc	cntcgtgact	360
ggctctgcaca	gttcatggag	gctgcagatg	aggccttqga	tgcctctggat	gctyctgcag	420
ctgaggccga	agccccgggt	gaagcaagaa	cccguatggg	aatqgagat	gaggclxtgt	480
ntgggcccct	gagctgggat	gacattgagt	llgagcltgt	gacctgggat	gaggagggag	540
attttggaga	tccttggtcc	agaattccat	ttacctctctg	ggccagatad	caacagaaatg	600
cccgtccag	attccttcag	acctttgccc	gloccaLLat	tggctctggt	qgt	653

<210> 364

<211> 401

<212> DNA

<213> Homo sapien

<400> 364

actagaggaa	agacgttaaa	ccactctact	accaatttgtg	gaactotcaa	agggtaaatg	60
acaaagccaa	tgaatgactc	taaaaacaat	atttaccattt	aatggtttgt	agacaataaa	120
aaaacaaggt	ggatagatct	agaattgtaa	cattttaaga	aaaccatagc	atttgacaga	180
tgagaaagct	caattataga	tgcaaagtta	taactaaact	uctatagttag	taaagaaata	240
catttcacac	ccttcatafa	aattcactat	ccttggttga	ggcactccat	aaaatgtatc	300
acgtgcatag	taaatcttta	tatttgctat	ggcgttgcac	ttagaggactt	ggactgcacc	360
aagtggatgc	gcggaaantg	aatctcttll	caatagcacc	g		401

<210> 365

<211> 356

<212> DNA

<213> Homo sapien

<400> 365

ccagtgtcat	atttgggctt	aaaatttcaa	gaagggcact	tcaaatggct	ttgcatttgc	60
atgtttcag	gctagagcgt	aggaatagac	cctggcgctc	actgtgagat	gttcttcagc	120
tccaggagca	tcaagtctct	gcagcaggtc	attcttgggt	aaagaaatga	cttccacaaa	180
ctctccatcc	cctggctttg	gcttcggcct	tgogttttcg	gcatactctc	cgttaaatgg	240
gactgtcacg	atgtgtatag	tacagtttga	caagcctggg	tcatacaga	ccgctggaga	300
acattcgcca	atgtccctct	tgtagccagt	ttcttcttcg	agctcccgga	gagcag	356

110

<210> 366
 <211> 1851
 <212> DNA
 <213> Homo sapien

<400> 366

tcatcaccat	tgccacgacg	ggcacogtta	gtcaggtttt	ctgggaatcc	cacatgagta	60
cttcogtggt	cttcatttct	cttcastagc	cataaatctt	ctagctctgg	ctggctgttt	120
tcacttcott	taagcccttg	tgactcttcc	tctgatgtoa	gctttaagtc	ttgttctgga	180
ttgctgtttt	cagaaagagat	ttttaacatc	tggtttttct	tgtagtcaga	aagtaactgg	240
caaattacat	gatgatgact	agaaacagca	tactctctgg	cogtctttcc	agatcttgag	300
aagatacatc	aacattttgc	tcaagtagag	ggctgactat	acttgctgat	ccacaacata	360
cagcaagtat	gagagcagtt	cttccatata	tatccagcgc	atttaaattc	gcttttttct	420
tgattaaaaa	tttcaccact	tgctgttttt	gctcatgtat	accaagtagc	agtgggtgtg	480
ggccatggtt	gttttttgat	tcgatatacg	cacogtataa	gagcagtgct	ttggccattt	540
atttatcttc	attgtagaca	gcctagtgtt	gagtgggtatt	tcataactca	tctgggaatat	600
ttggatcagt	goccatgttc	agcaacatta	acgcacatto	atcttctctg	cattgtacgg	660
ccitttgtoag	agctgtcttc	tttttgttgt	caaggacatt	aagttgacat	ogtctgtcca	720
gcacagagtt	tactacttct	gaattcccat	tggaagaggg	cagatgtaga	gcagtcctct	780
tttgcctgtc	cctcttggtc	acatccgtgt	cctgagucat	gacgatgaga	tcctttctgg	840
ggactttacc	ccaccaggca	gctctgttga	gcttggtccag	atcttctcca	tggaogtggt	900
ccctggggtc	cattgaaagg	ctgtctctgt	agctctccca	agcgaccacg	ttgctcttgc	960
cgtctccctg	cagcagggga	agcagtgcca	gcacccactg	cacctcttgc	tcacaaagct	1020
cttcacagag	gagtcgllgt	ggtctccaga	agtgcccacg	ttgctctllg	cgtctccctt	1080
gtccatccag	ggaggaagaa	atgcaggaaa	tgaaagatgc	atgcacgatg	gtatactctt	1140
cagccatcaa	acttctggac	agcaggtcac	ttccagcaag	gtggagaaag	ctgtccaccc	1200
acagaggatg	agatccagaa	accacaatat	ccattcccaa	acaaacactt	ttcagccaga	1260
cacaggtact	gaaatcatgt	catctgcggc	aacatggtgg	aacctacca	atcacacatc	1320
aagagatgaa	gacactgcag	tatatctgca	caacgtaata	ctcttcatcc	ataacaaaat	1380
aatataaatt	tactctggag	ccatctggat	gaactatgaa	ggaagaactc	ccggaagaag	1440
ccagtcgcag	agaagccaca	ctgaagctct	gtcttcagcc	atcagcgcca	oggacaggat	1500
tgtgtttctt	ccccagtgat	gcagcctcaa	gttatccaga	agctgcgcga	gcacacgggtg	1560
gctcctgaga	aacaccccag	ctcttcgggt	ctaacacagg	caagtcaata	aatgtgataa	1620
tcacataaaa	agaattuaaa	gcacagtcac	ataugcatct	caacagacac	agaaaaggca	1680
tttgacaaaa	tcacagcatc	llqatattat	tggtgcagtt	ctcagaggaa	atgcttctaa	1740
cttttccccc	ttttaglatte	tggtggctgt	gggtctgtca	taggtggttt	ttattacttt	1800
aaggtctgtc	cttctctatgc	ctgttttgc	gaggttttca	attctcgtgc	c	1851

<210> 367
 <211> 668
 <212> DNA
 <213> Homo sapien

<400> 367

cttgagcttc	caaataygga	agactggccc	ttacacagtc	caatgttaaa	atgaatgcat	60
ttcagtatct	tgaagataaa	atttgtagat	ctataccttg	ttttttgatt	cgatatcagc	120
acortataag	agcagtgctt	tgcccattaa	tttatcttcc	atttagaca	gcttagtgya	180
gagtgggtat	tcataactca	tctggaatat	ttggatcagt	gccatgttcc	agcaacatta	240
acguacattc	atcttctctg	cattgtacgg	cctgtcagta	ttagacccaa	aaacaaatta	300
catatcttta	gaattccaaa	taacatllca	uagctttcac	caactagtta	tatttaaaagg	360
aganaactca	tttttalqcc	alcgtattga	atcaaacuca	cctcatgctg	atatagttgg	420
ctacigcata	cctttatcag	agclgtcttc	tttttggtgt	caaggacatt	aagttagcat	480
cgtctgtcca	gcaggaqlct	taactcttcl	gaattcccat	tggaagaggg	cagatgtaga	540
gcaglcctat	cagagtgaga	agaclltlla	ggaaactgta	gtgcactaga	tacagccata	600
gcaatgattc	atgleactgc	aaacactgaa	tagcctgcla	ctactctgcn	ttcaaaaata	660
aaaaa						668

<210> 368
 <211> 1512
 <212> DNA
 <213> Homo sapien

111

<400> 368

gggtcgccca	gggggsgcgt	gggcttttct	cgggtgggtg	tgggttttcc	ctgggtgggg	60
tgggtctgggc	trgaatcccc	tgtctggggtt	ggcaggtttt	ggctgggatt	gacttttctc	120
ttcaaacaga	ttggaaacccc	ggagttacct	gctagttagt	gaaactgggt	ggttagacgcg	180
atctgttggc	tactactggc	ttctcctggc	tgttaaaagc	agatggtggt	tgggttggat	240
tccatgcccgt	ctgcttcttc	tgtagaagag	ccatttgggtc	tcaggagcaa	gatgggcaag	300
tgggtgctgcc	gttgcttccc	ctgctgcagg	gagagcggca	agagcaacgt	gggcacttct	360
ggagaccacg	acgactctgc	tatgaagaca	ctcaggagca	agatgggcaa	gtggtgccgc	420
cactgcttcc	ccctgctgca	ggggagtggc	aagagcaacg	tgggcgcttc	tggagaccac	480
gacgaytclq	ctatgaagac	actcaggaaac	aagatgggca	agtgggtgctg	ccactgcttc	540
ccctgctgca	gggggagcrg	caagagcaag	gtgggcgctt	ggggagacta	cgatgacagt	600
gccttcatgg	agcccaggta	ccacgtccgt	ggagaagatc	tggacaagct	ccacagagct	660
gcctggtggg	gtaaagtccc	cagaaaggat	ctcatcgtca	tgctcaggga	cactgacgtg	720
accaaagaagg	acaaagcaaaa	gaggactgct	ctacatctgg	ccctcgccaa	tgggaattca	780
gaaagtgttaa	aactcatgct	ggacagacga	tgtcaactta	atgtccttga	caacaaaaag	840
aggacagctc	tgayaaaggc	cgtacaatgc	caggaagatg	aatgtgcgtt	aatgttgcgt	900
gaacatggca	ctgatccaaa	tattccagat	gagtattgaa	ataccactct	rcactaygct	960
rtctayaatg	aagataaatt	aatggccaaa	gcactgctct	tatayggtgc	tgatatcgaa	1020
tcaaaaaaca	aggtatagat	ctactaattt	tatcttcaaa	atactgaaat	gcattcattt	1080
taacattgac	gtgtgtaaag	gccagtcttc	cgtattttga	agctcaagca	taacttgaat	1140
gaaaatattt	tgaatgacc	taattatctm	agactttatt	ttaaatattg	ttattttcaa	1200
agaagcatta	gaggggtacg	tttttttttt	ttaaatggac	ttctggtaaa	tacttttggt	1260
gaaaacactg	aattttgttaa	aggtaatact	tactattttt	caatttttcc	ctcctagagt	1320
ttttttcccc	taatgaatgt	aagatggcaa	aattttgccc	gaantaggtt	ttacatgaaa	1380
actccaagaa	aagttaaaaca	tgtttcagtg	aatagagatc	ctgctccttt	ggcaagttcc	1440
taaaaaacag	taatatgatac	gaggtgatgc	gcctgtcagt	ggcaaggttt	aagatatttc	1500
tgatctcgtg	cc					1512

<210> 369

<211> 1853

<212> DNA

<213> Homo sapien

<400> 369

gggtcgccca	gggggsgcgt	gggcttttct	cgggtgggtg	tgggttttcc	ctgggtgggg	60
tgggtctgggc	trgaatcccc	tgtctggggtt	ggcaggtttt	ggctgggatt	gacttttctc	120
ttcaaacaga	ttggaaacccc	ggagttacct	gctagttagt	gaaactgggt	ggttagacgcg	180
atctgttggc	tactactggc	ttctcctggc	tgttaaaagc	agatggtggt	tgggttggat	240
tccatgcccgt	ctgcttcttc	tgtagaagag	ccatttgggtc	tcaggagcaa	gatgggcaag	300
tgggtgctgcc	gttgcttccc	ctgctgcagg	gagagcggca	agagcaacgt	gggcacttct	360
ggagaccacg	acgactctgc	tatgaagaca	ctcaggagca	agatgggcaa	gtggtgccgc	420
cactgcttcc	ccctgctgca	ggggagtggc	aagagcaacg	tgggcgcttc	tggagaccac	480
gacgaytclq	ctatgaagac	actcaggaaac	aagatgggca	agtgggtgctg	ccactgcttc	540
ccctgctgca	gggggagcrg	caagagcaag	gtgggcgctt	ggggagacta	cgatgacagy	600
gccttcatgg	agcccaggta	ccacgtccgt	ggagaagatc	tggacaagct	ccacagagct	660
gcctggtggg	gtaaagtccc	cagaaaggat	ctcatcgtca	tgctcaggga	cackgaygtg	720
accaaagarqg	acaaagcaaaa	gaggactgct	ctacatctgg	ccctcgccaa	tgggaattca	780
gaaagtgttaa	aactcatgct	ggacagacga	tgtcaactta	atgtccttga	caacaaaaag	840
aggacagctc	tgayaaaggc	cgtacaatgc	caggaagatg	aatgtgcgtt	aatgttgcgt	900
gaacatggca	ctgatccaaa	tattccagat	gagtattgaa	ataccactct	rcactaygct	960
rtctayaatg	aagataaatt	aatggccaaa	gcactgctct	tatayggtgc	tgatatcgaa	1020
tcaaaaaaca	agcatggcct	cacacccactg	ytacttggtr	tacatgagca	aaacacagcaa	1080
gtagtgaat	ttttaatyaat	gaaaaaagcg	aatttaaaat	gcrcctggatu	gatattgaaag	1140
ractgtcttc	atacttgcgt	tatgttggg	atcagcaagt	atagtacgac	ytctacttga	1200
gcaaaatrct	gatgtatctt	ctcaagatct	ggaaagacgg	ccagagagta	tgtgttltct	1260
agtcacatc	atgtaatttg	ccagttactt	tctgactaca	aagaaaaaca	gatgtttaaag	1320
atctcttctg	aaaacagcaa	tccagaacaa	gacttaaaagc	tgaacatcag	ggaagagtcg	1380
caaaggctta	aaggaagtga	aaacagccag	ccagagggcat	ggaaccltct	aaatttcaac	1440
ttttggttta	atgttttttt	tttttgcctt	aataatatta	gatagttcca	aattgaatatwa	1500
octatgagac	taggctttga	gaatcaataag	attctttttt	taaggaatctc	tgggttagga	1560
gcggtgtctc	acgcctgtaa	ttccagcacc	ttgagagagct	gaugtgggca	gacacagaga	1620

112

tcaggagatc	gagaccatcc	tggctaacac	ggtgaaaccc	catctctact	aaaaatataa	1680
aaacttagct	gggtgtgglg	gagggtgccc	gtaagtccag	ctactcagga	rgctgaggca	1740
ggagaatggc	atgaacccgg	gagggtgggg	ttgcagtgag	ccgagatccg	ccactacact	1800
ccagcctggg	tgaacgagca	agactctgtc	tcaaaaaaaa	aaaaaaa	aaa	1853

<210> 370
 <211> 2184
 <212> DNA
 <213> Homo sapien

<400> 370

ggcscgagaa	ttaaaaccct	cagcaaaaaca	ggcatagaag	ggacatacct	taaagtaata	60
aaaaccacct	atgacaagcc	cacagccaac	ataatactaa	atggggaaaa	gttagaagca	120
tttccctctga	gaactgcaac	aataaatata	aggatgctgg	attttgtcaa	atgccttttc	180
tgtgtctgtt	gagatgctta	tgtgactttg	cttttaattc	tgtttatgtg	attatcacat	240
ttattgactt	gootgtgtta	gaccgggaaga	gctgggggtg	ttctcaggag	ccaccgtgtg	300
ctggggcagc	ttcgggataa	cttgaggctg	catcactggg	gaagaaaacac	aytccgtgcc	360
gtggcgctga	tggctgagga	cagagcttca	gtgtggcttc	tctgcgactg	gcttctctgg	420
ggagtctctc	cttccatagtt	catccatattg	gctccagagg	aaaattatat	tattttgtta	480
tggatgaaga	gtattacgtt	gtgcagatat	actgcagtgt	cttcatctct	tgatgtgtga	540
ttgggtaggt	tccaccatgt	tgcgcagat	gacatgattt	cagtacctgt	gtctggctga	600
aaagtgtttg	tttgtgaatg	gatattgtgg	tttctggatc	tcactcctctg	tgggtggaca	660
gctttctcca	ccttgctgga	agtgcactgc	tgtccagaag	tttgatggct	gaggagata	720
ccatcgtgca	tgcactcttc	atttccctga	tttcttctc	cctggatgga	cagggggagc	780
ggcaagagca	acgtgggcac	ttctggagac	cacaaagact	cctctgtgaa	gacgcttggg	840
agcagagagc	gcaagtgggtg	ctgcacactgc	ttccctgtct	gcaggggagc	ggcaagagca	900
acgtgggtcc	ttggggggac	tccgalqaca	gcgccttcat	ggatcccagg	taccacgtcc	960
atggagagga	tcgggacaa	clccacagag	clgcctgggtg	ggglaaaqtc	cccagaaagg	1020
atctcatcgt	catgctcagg	gacacggatg	tqaacaaagc	ggcacaagca	aaagagactg	1080
ctctacatct	ggcctctgcc	aatgggaatt	cagaaglagt	asaactcgtg	ctggacagac	1140
gatgtcaact	taatgtcctt	gacaacaaaa	agaggacagc	tctgacaaag	gccgtacaat	1200
gcoaggaaga	tgaatgtgcg	ttaatgttgc	tggaaacatgg	cactgatcca	aatattccag	1260
atgagtatgg	aaataccact	ctacactatg	ctgtctacaa	tgaagataaa	ttaatggcca	1320
aagcattcgt	cttatacggt	gctgatatcg	aatcaaaaaa	caagcatggc	ctcacaccac	1380
tgtactctgg	tatacatgag	caaaaacagc	aagtgggtgaa	atttttaact	aagaaaaaag	1440
cgaattttaa	tgcgttggat	agatatggaa	gaactgctct	catacttgct	gtatgtttgt	1500
gatcagcaag	tatagtccag	cctctacttg	agcaaaatgt	tgatgtatct	tctcaagatc	1560
tggaaagacg	gcccagaggt	atgctgtttc	tagtcatcat	catgtaatat	gccagttact	1620
ttctgactac	aaagaaaaac	agatgltaaa	aatctctctc	gaaaacagca	atccagaaac	1680
agacttaagc	clqecatacg	aggaagagtc	acaaaggtct	aaaggaagtg	aaacagcca	1740
gacagaggca	tggaaacttt	tcaatltaaa	cttttggttt	aatgtttttt	ttttttgctt	1800
taataatatt	agatagttcc	aaatgaatat	acclatgaga	ctaggctttg	agaalcaala	1860
gattcttttt	ttaagaatct	tttggctagg	agcgtgtctc	cacgcttqla	attccagcac	1920
cttgagaggc	tgaggtgggc	agatcangag	atcaggagat	cgagacatc	ctggctasca	1980
cggtgaaacc	ccatctctac	taaaaatata	aaaacttagc	tgggtgtggc	ggcgggtgcc	2040
tgtagtccca	gctactcagg	argctgaggc	aggagaatgg	catgaacccg	ggaggtggag	2100
gttgcaagtga	gcccagatcc	gccaactaac	cccagcctgg	gtgacagagc	aagactctgt	2160
ctcaaaaaaa	aaaaaaaaaa	aaaa				2184

<210> 371
 <211> 1855
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1}..(1855)
 <223> n = A, T, C or G

<400> 371

tgnacgcac	ggccagtgtc	tgtgccacgt	acactgacgc	cccttgagat	gtgcacgcgc	60
cacgngcacg	ttgcacgcgc	ggcagcggct	tgagclagctt	gtaacggctt	gcaucgcgac	120

gcgcgcgcgc	cataaccgct	agactggcct	gtaacggcct	gcaggcgac	gcgcgcgcgc	180
cgtaacggct	tggctgocct	gtaacggcct	gcacgtgat	gctgcaogcg	cgtaacgggc	240
ttggctggca	tgtagcgcct	tggcttggct	ttgcattyt	tgtkggctk	ggcgttgkty	300
tcttgattg	acgcttcctc	cttgatkgc	cgtttccctc	ttggatkgac	gtttcxyty	360
tgcgcttcc	ttgctggact	tgacctttty	tctgctgggt	ttggcattcc	tttgggggtg	420
gctgggtgt	ttctccgggg	gggkktggcc	ttcctgggg	gggctgggk	cgcccccagg	480
gggctgggg	ttcccccggg	tgggtgtggg	tttccctggg	gtgggggtgg	ctgtgctggg	540
atcccccctg	tgggggtggc	agggattgac	ttttttcttc	aaacagattg	gaaacccgga	600
gtaacntgct	agttgggtga	actygttgg	agacgcgac	tgtggtact	actgtttctc	660
ctggctgtla	aaagcagatg	gtggctgagg	ttgattcaat	gcgggtgct	tcttctgtga	720
agaaguccat	tggctcaggg	agcaagatgg	gcaagtggtg	cgcactgct	tccccctgct	780
cagggggagg	ggcaagagca	acgctgggac	ttctggagac	cccaacgact	cctctgtgaa	840
gacgcttggg	agcaagaggg	gcaagtggtg	clgcccaactg	cttccctgct	lccagggggg	900
cggccagagg	aagctggkcg	cttggggagg	ctacgalgac	agcgccttca	tggakccca	960
gtaccacgtc	ctggggagg	atctggacaa	gctccacaga	gclgcctggg	gggglaaagt	1020
ccccagcaag	gatctcatcg	tcattgctcag	ggacactgag	gtgacacaga	rggacacaga	1080
aaaggaggact	gctctacatc	tggcctctgc	caatgggaat	tcagaagtag	taaaactcgt	1140
gctggacaga	cgtgttcaac	ttaatgtcct	tgacaacaaa	aaaggagacg	ctctgacaaa	1200
ggcctgacaa	tggcagggaag	atgaatgtgc	gttaatgttg	ctggaacatg	gcaactgtcc	1260
aaatattcca	gatgagtag	gaaataccac	tctacactat	gctgtctaca	atgaagataa	1320
attaatggcc	aaagcactgc	tcttatacgg	tgtgtatctc	gaatcaaaaa	acaaggtata	1380
gatctactaa	ttttatcttc	aaaatactga	aatgcattca	ttttaacatt	gacgtgtgta	1440
agggccagtc	ttccgtattt	ggaagctcaa	gcataacttg	aatgaaaata	ttttgaaatg	1500
acctaattat	ctaagacttt	atttttaata	ttgttatctt	caaagaagca	ttagagggtg	1560
cagttttttt	tttttaaatg	cacttctggt	aaataacttt	gttgaaaaca	ctgaatttgt	1620
aaaaggtaat	acttactatt	tttcaatttt	tccctcctag	gatttttttc	ccctaattga	1680
tgtaatgtgg	caaaatttgc	cctgaaatag	gttttacctg	aaaactccaa	gaaagtttaa	1740
acatgtttca	gtgaatagag	atcctggctc	tttggcaagt	tcttaaaaaa	cagtaataga	1800
tacgaggtga	tgcgcctgtc	agtggcaagg	tttaagatat	ttctgatctc	gtgcc	1855

<210> 372
 <211> 1059
 <212> DNA
 <213> Homo sapien

<400> 372						
gcaacgtggg	cacttctgga	gaccacaaag	actcctctgt	gaagacgctt	gggagcaaga	60
ggtgcaagtg	gtgctgocca	ctgcttcccc	tgtctgaggg	gagcggcaag	agcaacgtgg	120
gcgcttgrgg	agactmogat	gacagygcct	tcatggagcc	caggtaccac	gtccgtggag	180
aagatctgga	caagctccac	agagctgccc	tgggtgggga	aagtccccag	aaaggatctc	240
atcgctatgc	tcagggacac	tgaygtgaac	aagarggaca	agcaaaagag	gactgctcta	300
catctggcct	ctgccaatgg	gaattccagaa	gtagtataaac	tctgtctgga	cagacgatgt	360
caacttaatg	tctttgacaa	caaaaagagg	acagctctga	yaaaggccgt	acaaagccag	420
gaagatgaat	gtggtttaat	gttgcctgaa	catgggactg	atccaaatat	tccagatgag	480
tatygaatla	ccactctrua	ctaygctrtc	tayaatgaag	ataaattaat	ggccaaagca	540
ctgctcttal	aygggtgctga	lcl.cqaatca	aaaaacaaag	tatagatcta	ctaattttct	600
cttcaaaata	ctgaastgca	ttcattttaa	cattgarctg	tgtaaaggcc	agtctlccgt	660
atttggaagc	tcaagcctaa	cttgaatgaa	aatattttga	aatgacrtaa	ttat.ctaaga	720
ctttatttta	aatattgtta	ttttcaaaaga	agcatttagag	ggtacagctt	ttttttttta	780
aatgcacttc	tggtaaatat	ttttgttgaa	aacactgaat	ttgtaaaagg	taatacttac	840
tatttttcaa	tttttccctc	ctaggatttt	tttcccttaa	tgaatgtaag	atggcaaaat	900
ttgcctgaa	ataggtttta	catgaaaact	ccaagaaaag	ttaaacatgt	ttcagtgcaat	960
agagatcctg	ctcctttggc	aagttcctaa	aaaacagtaa	tagatacagag	gtgatgcgcc	1020
tgtcagtggc	aaggtttaag	atattttctga	tctcgtgcc			1059

<210> 373
 <211> 1155
 <212> DNA
 <213> Homo sapien

<400> 373						
atgggtgggtg	aggttgatcc	catgcggct	gcctctttctg	tgaagaagcc	atttgggtctc	60

aggagcaaga	tgggcaagt	gtgctgocgt	tgtttccct	gctgcaggga	gagoggcaag	120
agcaacgtgg	gcacttctgg	agaccaagac	gactctgcta	tgaagacact	caggagcaag	180
atgggcaagt	ggtgcccga	ctgcttccc	tgtgcagg	ggagtggcaa	gagcaacgtg	240
ggcgtctctg	gagaccaaga	cgactctgct	atgaagacac	tcaggaaaca	gatgggcaag	300
tgggtgctgoc	actgcttccc	ctgctgcagg	gggagcggca	agagcaaggt	ggcgcttgg	360
ggagactacg	atgacagtgc	ctcatggag	ccaggtacc	aogtccgtgg	agaagatctg	420
gacaaqctcc	acagagctgc	ctggtgggt	aaagtcccca	gaaaggatct	catcgtcatg	480
ctcagggaca	ctgacgtgaa	caagagggac	aaqcaaaaga	ggactgctct	acatctggcc	540
tctgccaatg	ggaattcaga	agtatgtaaa	ctcctgctgg	acagacgatg	tcaacttaat	600
gtccttgaca	acaaaaagag	gacagctctg	alaaaggccg	tacaatgcca	ggaagatgaa	660
tgtgctttaa	tgttgctgga	acatggcact	gatccaaata	ttccagatga	gtatggaat	720
accactctgc	actacgctat	ctataatgaa	galaaatlga	tggccaaagc	actgctctta	780
tatggtgctg	atatcgaaac	aaaaaacaaq	catggcctca	caactctgtt	acttgggtga	840
catgagcaaa	aacagcaagt	cgtgaaattt	ttaatcaaga	aaaaagcgaa	tttaaatgca	900
ctggatagat	atggaaggac	tgctctcata	cttgcctgat	gttgctgctc	agcaagtata	960
gtcagccttc	tacttgagca	aaatattgat	gtatcttctc	aagatctatc	tggacagacg	1020
gccagagagt	atgctgtttc	tagtcatcat	catgtaattt	gccagttaac	ttctgactac	1080
aaagaaaaac	agatgctaaa	aatctcttct	gaaaacagca	atccagaaaa	tgctcaaga	1140
accagaataa	ataaa					1155

<210> 374

<211> 2000

<212> DNA

<213> Homo sapien

<400> 374

atgggtggttg	aggttgatgc	catgcccgt	gcctctcttg	tgaagaagcc	atttgggtctc	60
aggagcaaga	tyggcaagt	gtgctgocgt	tgtttccct	gctgcaggga	gagoggcaag	120
agcaacgtgg	gcacttctgg	agaccaagac	gactctgcta	tgaagacact	caggagcaag	180
atgggcaagt	ggtgcccga	ctgcttccc	tgctgcagg	ggagtggcaa	gagcaacgtg	240
ggcgtctctg	gagaccaaga	cgactctgct	atgaagacac	tcaggaaaca	gatgggcaag	300
tgggtgctgoc	actgcttccc	ctgctgcagg	gggagcggca	agagcaaggt	ggcgcttgg	360
ggagactacg	atgacagtgc	cttcatggag	ccaggtacc	aogtccgtgg	agaagatctg	420
gacaagctcc	acagagctgc	ctggtgggt	aaagtcccca	gaaaggatct	catcgtcatg	480
ctcagggaca	ctgacgtgaa	caagaaggac	aaqcaaaaga	ggactgctct	acatctggcc	540
tctgccaatg	ggaattcaga	agtatgtaaa	ctcctgctgg	acagacgatg	tcaacttaat	600
gtccttgaca	acaaaaagag	gacagctctg	ataaaggccg	tacaatgcca	ggaagatgaa	660
tgtgctttaa	tgttgctgga	acatggcact	gatccaaata	ttccagatga	gtatggaat	720
accautctgc	actacgctat	ctataatgaa	gataaattaa	tggccaaagc	actgctctta	780
tatgctctgc	actacgctat	aaaaaacaaq	catggcctca	caactctgtt	acttgggtga	840
catgagcaaa	aacagcaagt	cgtgaaattt	ttaatcaaga	aaaaagcgaa	tttaaatgca	900
ctggatagat	atggagggac	tgctctcata	cttgcctgat	gttgctgctc	agcaagtata	960
gtcagccttc	tacttgagca	aaatattgat	gtatcttctc	aagatctatc	tggacagacg	1020
gccagagagt	atgctgtttc	tagtcatcat	catgtaattt	gccagttaac	ttctgactac	1080
aaagaaaaac	agatgctaaa	aatctcttct	gaaaacagca	atccagaaaa	tgctcaaga	1140
ctgacatcag	aggaagagtc	acaaagggtt	aaaggcagtg	aaatagccca	gcagagaaa	1200
atgtctcaag	aaccagaagt	aaataaggat	ggtgatagag	aggttgaaag	agaaatgaa	1260
aagcatgaaa	gtaataatgt	gggattacta	gaaaacctga	ctaattggtgt	actgctggc	1320
aatggtgata	atggatkaat	tcctcaagag	aagagcagaa	cacctgaaaa	tcagcaattt	1380
cctgacaacg	aaagtgaaga	gtatcacaga	atttgogaat	tagtttctga	ctacaaagaa	1440
aaacagatgc	caaaatactc	ttctgaaaac	agcaaccag	aacaagactt	aaagctgaca	1500
tcagaggaag	agtcacaaag	gottgagggc	agtgaatag	gccagccaga	gctagaaat	1560
tttatggcta	tcgaagaaat	gaagaagcac	ggaagtactc	atgtcggatt	cccagaaac	1620
ctgactaatg	gtgccactgc	tggcaatggt	gatgatggat	taattcctcc	aagggaagagc	1680
agaaacacctg	aaagccagca	atttcttgac	actggaatg	aagagtatca	cagtgcagaa	1740
caaaatgata	ctcagaagca	attttgtgaa	gaacagaaca	ctggaatatt	acacgatgag	1800
attctgattc	atgaagaaaa	gcagatagaa	gtggttgaaa	aaatgaattc	tgagctttct	1860
cttaqttgta	agaaagaaaa	agacatcttg	catgaaaata	gtacgtttgcg	ggaagaaatt	1920
gccatgctaa	gactggagct	agacaacatg	aaacatcaga	gccagctaaa	aaaaaaaaaa	1980
aaagaaagaaa	aaagaaagaaa					2000

<210> 375

<211> 2040
 <212> DNA
 <213> Homo sapien

<400> 375

atggttggttg	agggttgattc	catgccgget	gcctcttctg	tgaagaagcc	atttggtctc	60
aggagcaaga	tgggcaagtg	gtgctgccgt	tgcttccct	gctgcaggga	gagcggaag	120
agcaacgttg	gcacttcttg	agaccacgac	gactctgcta	tgaagacact	caggagcaag	180
atgggcaagt	gggtgcggcca	ctgcttcccc	tgctgcaggg	ggagtggcaa	gagcaacgtg	240
ggcgcttctg	gagaccacga	cgactctgct	atgaagacac	tcaggaaaca	gatgggcaag	300
tgggtgctgcc	actgcttccc	ctgctgcagg	gggagcggca	agagcaagggt	ggggtgttgg	360
ggagactacg	atgacagtgc	cttcattggag	cccagggtacc	acgtccgtgg	agaagutctg	420
gacaagctcc	acagagctgc	ctgggtgggt	aaagtcccca	gaaaggatct	catcgtcatg	480
ctcagggaca	ctgacgtgaa	caagaaggac	aagcannuaga	ggactgctct	acatctgggc	540
tctgccaatg	ggauttcaga	agtagtaaaa	ctcctgctgg	acagacgatg	tcacttcat	600
gtccttgaca	acaaaaagag	gacagctctg	ataaaggccg	tacaatgccg	ggaaqatgaa	660
tgtgcgttaa	tgttgctggg	acatggcact	gtcccaata	ttccagatga	gtatggaaal	720
accactctgc	actacgctat	ctataatgaa	gataaettta	tggcccaagc	actgctctta	780
tatgglgctg	atatcgaaac	aaaaaaccaag	catggcclca	naccactgtt	cttgggtgta	840
catgagcaaa	aaacgcagcl	cgtgaaattt	ttaactraaga	aaaaagcgaa	tttasetgca	900
ctggglaqat	atgggaaggac	tgcctcncat	cttgctgtat	gttggtggatc	agcaagtata	960
gtcagccttc	tacttgagca	aaatattgat	gtatctttct	aaqatctatc	tggacagacg	1020
gccagagagt	atgctgtttc	tagtcatcat	catgtaattt	gccagttact	ttctgactac	1080
aaagaaaaac	agatgctaaa	aatctcttct	gaaaacagca	atccagaaca	agacttaaaag	1140
ctgacatcac	aggaagagtc	acaaaaggttc	aaaggcagtg	aaaatagcca	gccagagaaa	1200
atgtrctcaag	aaccagaaat	aaataaggat	ggtgatagag	aggttgaaga	agaaatgaag	1260
aagcatgaaa	gtaataatgt	gggattacta	gaaaacctga	ctaattggtgt	cactgctggc	1320
aatggtgata	atggattaat	tcctcaaaag	aagagcagaa	caactgaaaa	tcagcaattt	1380
cctgacaacg	aaagtgaaga	gtatcacaga	atttgogaat	tagttttctga	ctacaaagaa	1440
aaacagatgc	caaatatctc	ttctgaaaaac	agcaaccacg	aacaaagactt	aaagctggcc	1500
tcagaggaag	agtcacaaaq	guttgagggc	agtgaannatg	gucagccaga	gaaagatctt	1560
caagaaacag	aaataaataa	gaatgggtgat	agagagctag	aaatlllat	ggctatcgaa	1620
gaaalgaaga	agcaacggag	tactcatctc	ggaatccacg	aaaccctgac	taatggtgcc	1680
actgctggcc	atggtgatga	tggaltcaatt	ctcccaaggc	agagcagaaac	acctgaaagc	1740
cagcaatttc	ctgacactga	gaatgaaagc	tatcacagtg	argaacaaaa	tgatactcag	1800
aagcaatttt	gtgaagaaca	gaacactgga	atattacacg	atgagattct	gattcatgaa	1860
gaaaagcaga	tagaagtggg	tgaasaaatg	aattctgagc	tttctcttag	ttgtaaagaa	1920
gaaaagacaa	tcttgcatga	aaatagtacg	ttgcgggaag	aaattgccat	gctaagaactg	1980
gagctagaca	caatgaaaca	tcagagccag	ctaaasaaaa	aaaaaaaaaa	aaaaaaaaaa	2040

<210> 376
 <211> 329
 <212> PRT
 <213> Homo sapien

<400> 376

Met	Asp	Ile	Val	Val	Ser	Gly	Ser	His	Pro	Leu	Trp	Val	Asp	Ser	Phe
1			5						10					15	
Leu	His	Leu	Ala	Gly	Ser	Asp	Leu	Leu	Ser	Arg	Ser	Leu	Met	Ala	Glu
			20					25					30		
Glu	Tyr	Thr	Ile	Val	His	Ala	Ser	Phe	Ile	Ser	Cys	Ile	Ser	Ser	Ser
			35				40					45			
Leu	Asp	Gly	Gln	Gly	Glu	Arg	Gln	Glu	Gln	Arg	Gly	His	Phe	Trp	Arg
			50			55					60				
Pro	Gln	Arg	Leu	Leu	Cys	Glu	Asp	Ala	Trp	Glu	Gln	Glu	Val	Gln	Val
					70					75				80	
Val	Leu	Pro	Leu	Leu	Pro	Leu	Leu	Gln	Gly	Ser	Gly	Lys	Ser	Asn	Val
					85			90						95	
Val	Ala	Trp	Gly	Asp	Tyr	Asp	Asp	Ser	Ala	Phe	Met	Asp	Pro	Arg	Tyr
			100					105					110		
His	Val	His	Gly	Glu	Asp	Leu	Asp	Lys	Leu	His	Arg	Ala	Ala	Trp	Trp
			115				120					125			

116

Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met Leu Arg Asp Thr Asp
 130 135 140
 Val Asn Lys Arg Asp Lys Gln Lys Arg Thr Ala Leu His Leu Ala Ser
 145 150 155 160
 Ala Asn Gly Asn Ser Glu Val Val Lys Leu Val Leu Asp Arg Arg Cys
 165 170 175
 Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr Ala Leu Thr Lys Ala
 180 185 190
 Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met Leu Leu Glu His Gly
 195 200 205
 Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr
 210 215 220
 Ala Val Tyr Asn Glu Asp Lys Leu Met Ala Lys Ala Leu Leu Leu Tyr
 225 230 235 240
 Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly Leu Thr Pro Leu Leu
 245 250 255
 Leu Gly Ile His Glu Gln Lys Gln Gln Val Val Lys Phe Leu Ile Lys
 260 265 270
 Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr Gly Arg Thr Ala Leu
 275 280 285
 Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile Val Ser Pro Leu Leu
 290 295 300
 Glu Gln Asn Val Asp Val Ser Ser Gln Asp Leu Glu Arg Arg Pro Glu
 305 310 315 320
 Ser Met Leu Phe Leu Val Ile Ile Met
 325

<210> 377
 <211> 148
 <212> PRT
 <213> Homo sapien

<220>
 <221> VARIANT
 <222> (1)...(148)
 <223> Xaa = Any Amino Acid

<400> 377
 Met Thr Xaa Pro Ser Trp Ser Pro Gly Thr Thr Ser Val Glu Lys Ile
 1 5 10 15
 Trp Thr Ser Ser Thr Glu Leu Pro Trp Trp Gly Lys Val Pro Arg Lys
 20 25 30
 Asp Leu Ile Val Met Leu Arg Asp Thr Asp Val Asn Lys Xaa Asp Lys
 35 40 45
 Gln Lys Arg Thr Ala Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu
 50 55 60
 Val Val Lys Leu Xaa Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp
 65 70 75 80
 Asn Lys Lys Arg Thr Ala Leu Xaa Lys Ala Val Gln Cys Gln Glu Asp
 85 90 95
 Glu Cys Ala Leu Met Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro
 100 105 110
 Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr Ala Xaa Tyr Asn Glu Asp
 115 120 125
 Lys Leu Met Ala Lys Ala Leu Leu Tyr Gly Ala Asp Ile Glu Ser
 130 135 140
 Lys Asn Lys Val
 145

<210> 378
 <211> 1719
 <212> PRT

<213> Homo sapien

<400> 378
Met Val Val Glu Val Asp Ser Met Pro Ala Ala Ser Ser Val Lys Lys
1 5 10 15
Pro Phe Gly Leu Arg Ser Lys Met Gly Lys Trp Cys Cys Arg Cys Phe
20 25 30
Pro Cys Cys Arg Glu Ser Gly Lys Ser Asn Val Gly Thr Ser Gly Asp
35 40 45
His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys Met Gly Lys Trp
50 55 60
Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Asn Val
65 70 75 80
Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Asn
85 90 95
Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys Cys Arg Gly Ser
100 105 110
Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe
115 120 125
Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu Asp Lys Leu His
130 135 140
Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met
145 150 155 160
Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln Lys Arg Thr Ala
165 170 175
Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val Val Lys Leu Leu
180 185 190
Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr
195 200 205
Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met
210 215 220
Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn
225 230 235 240
Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys Leu Met Ala Lys
245 250 255
Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly
260 265 270
Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys Gln Gln Val Val
275 280 285
Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr
290 295 300
Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile
305 310 315 320
Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser Ser Gln Asp Leu
325 330 335
Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser His His His Val
340 345 350
Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln Met Leu Lys Ile
355 360 365
Ser Ser Glu Asn Ser Asn Pro Glu Asn Val Ser Arg Thr Arg Asn Lys
370 375 380
Pro Arg Thr His Met Val Val Glu Val Asp Ser Met Pro Ala Ala Ser
385 390 395 400
Ser Val Lys Lys Pro Phe Gly Leu Arg Ser Lys Met Gly Lys Trp Cys
405 410 415
Cys Arg Cys Phe Pro Cys Cys Arg Glu Ser Gly Lys Ser Asn Val Gly
420 425 430
Thr Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys
435 440 445
Met Gly Lys Trp Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly
450 455 460
Lys Ser Asn Val Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys

465					470					475					480
Thr	Leu	Arg	Asn	Lys	Met	Gly	Lys	Trp	Cys	Cys	His	Cys	Phe	Pro	Cys
				485					490						495
Cys	Arg	Gly	Ser	Gly	Lys	Ser	Lys	Val	Gly	Ala	Trp	Gly	Asp	Tyr	Asp
			500					505					510		
Asp	Ser	Ala	Phe	Met	Glu	Pro	Arg	Tyr	His	Val	Arg	Gly	Glu	Asp	Leu
		515					520					525			
Asp	Lys	Leu	His	Arg	Ala	Ala	Trp	Trp	Gly	Lys	Val	Pro	Arg	Lys	Asp
	530				535						540				
Leu	Ile	Val	Met	Leu	Arg	Asp	Thr	Asp	Val	Asn	Lys	Lys	Asp	Lys	Gln
545					550					555					560
Lys	Arg	Thr	Ala	Leu	His	Leu	Ala	Ser	Ala	Asn	Gly	Asn	Ser	Glu	Val
				565					570					575	
Val	Lys	Leu	Leu	Leu	Asp	Arg	Arg	Cys	Gln	Leu	Asn	Val	Leu	Asp	Asn
			580					585					590		
Lys	Lys	Arg	Thr	Ala	Leu	Ile	Lys	Ala	Val	Gln	Cys	Gln	Glu	Asp	Glu
		595					600					605			
Cys	Ala	Leu	Met	Leu	Leu	Glu	His	Gly	Thr	Asp	Pro	Asn	Ile	Pro	Asp
	610					615					620				
Glu	Tyr	Gly	Asn	Thr	Thr	Leu	His	Tyr	Ala	Ile	Tyr	Asn	Glu	Asp	Lys
625					630					635					640
Leu	Met	Ala	Lys	Ala	Leu	Leu	Leu	Tyr	Gly	Ala	Asp	Ile	Glu	Ser	Lys
				645					650					655	
Asn	Lys	His	Gly	Leu	Thr	Pro	Leu	Leu	Gly	Val	His	Glu	Gln	Lys	
			660					665					670		
Gln	Gln	Val	Val	Lys	Phe	Leu	Ile	Lys	Lys	Lys	Ala	Asn	Leu	Asn	Ala
		675					680					685			
Leu	Asp	Arg	Tyr	Gly	Arg	Thr	Ala	Leu	Ile	Leu	Ala	Val	Cys	Cys	Gly
	690					695						700			
Ser	Ala	Ser	Ile	Val	Ser	Leu	Leu	Leu	Glu	Gln	Asn	Ile	Asp	Val	Ser
705					710					715					720
Ser	Gln	Asp	Leu	Ser	Gly	Gln	Thr	Ala	Arg	Glu	Tyr	Ala	Val	Ser	Ser
				725					730					735	
His	His	His	Val	Ile	Cys	Gln	Leu	Leu	Ser	Asp	Tyr	Lys	Glu	Lys	Gln
			740					745					750		
Met	Leu	Lys	Ile	Ser	Ser	Glu	Asn	Ser	Asn	Pro	Glu	Gln	Asp	Leu	Lys
	755						760					765			
Leu	Thr	Ser	Glu	Glu	Glu	Ser	Gln	Arg	Phe	Lys	Gly	Ser	Glu	Asn	Ser
	770					775					780				
Gln	Pro	Glu	Lys	Met	Ser	Gln	Glu	Pro	Glu	Ile	Asn	Lys	Asp	Gly	Asp
785					790					795					800
Arg	Glu	Val	Glu	Glu	Glu	Met	Lys	Lys	His	Glu	Ser	Asn	Asn	Val	Gly
				805					810					815	
Leu	Leu	Glu	Asn	Leu	Thr	Asn	Gly	Val	Thr	Ala	Gly	Asn	Gly	Asp	Asn
			820					825					830		
Gly	Leu	Ile	Pro	Gln	Arg	Lys	Ser	Arg	Thr	Pro	Glu	Asn	Gln	Gln	Phe
		835					840					845			
Pro	Asp	Asn	Glu	Ser	Glu	Glu	Tyr	His	Arg	Ile	Cys	Glu	Leu	Val	Ser
	850					855					860				
Asp	Tyr	Lys	Glu	Lys	Gln	Met	Pro	Lys	Tyr	Ser	Ser	Glu	Asn	Ser	Asn
865					870					875					880
Pro	Glu	Gln	Asp	Leu	Lys	Leu	Thr	Ser	Glu	Glu	Glu	Ser	Gln	Arg	Leu
			885						890					895	
Glu	Gly	Ser	Glu	Asn	Gly	Gln	Pro	Gln	Leu	Glu	Asn	Phe	Met	Ala	Ile
			900					905					910		
Glu	Glu	Met	Lys	Lys	His	Gly	Ser	Thr	His	Val	Gly	Phe	Pro	Glu	Asn
		915					920					925			
Leu	Thr	Asn	Gly	Ala	Thr	Ala	Gly	Asn	Gly	Asp	Asp	Gly	Leu	Ile	Pro
	930					935					940				
Pro	Arg	Lys	Ser	Arg	Thr	Pro	Glu	Ser	Gln	Gln	Phe	Pro	Asp	Thr	Glu
945					950					955					960
Asn	Glu	Glu	Tyr	His	Ser	Asp	Glu	Gln	Asn	Asp	Thr	Gln	Lys	Gln	Phe

	965		970		975
Cys Glu Glu Gln	Asn Thr Gly Ile Leu	His Asp Glu Ile Leu	Ile His		
	980		985		990
Glu Glu Lys Gln	Ile Glu Val Val Glu	Lys Met Asn Ser Glu	Leu Ser		
	995		1000		1005
Leu Ser Cys Lys	Lys Glu Lys Asp Ile Leu	His Glu Asn Ser Thr	Leu		
	1010		1015		1020
Arg Glu Glu Ile	Ala Met Leu Arg Leu	Glu Leu Asp Thr Met	Lys His		
	1025		1030		1035
Gln Ser Gln Leu	Pro Arg Thr His Met Val	Val Glu Val Asp Ser	Met		
	1045		1050		1055
Pro Ala Ala Ser	Ser Val Lys Lys Pro	Phe Gly Leu Arg Ser	Lys Met		
	1060		1065		1070
Gly Lys Trp Cys	Cys Arg Cys Phe Pro	Cys Cys Arg Glu	Ser Gly Lys		
	1075		1080		1085
Ser Asn Val Gly	Thr Ser Gly Asp His	Asp Asp Ser Ala	Met Lys Thr		
	1090		1095		1100
Leu Arg Ser Lys	Met Gly Lys Trp Cys	Arg His Cys Phe	Pro Cys Cys		
	1105		1110		1115
Arg Gly Ser Gly	Lys Ser Asn Val Gly	Ala Ser Gly Asp	His Asp Asp		
	1125		1130		1135
Ser Ala Met Lys	Thr Leu Arg Asn Lys	Met Gly Lys Trp	Cys Cys His		
	1140		1145		1150
Cys Phe Pro Cys	Cys Arg Gly Ser Gly	Lys Ser Lys Val	Gly Ala Trp		
	1155		1160		1165
Gly Asp Tyr Asp	Asp Ser Ala Phe	Met Glu Pro Arg	Tyr His Val	Arg	
	1170		1175		1180
Gly Glu Asp Leu	Asp Lys Leu His Arg	Ala Ala Trp Trp	Gly Lys Val		
	1185		1190		1195
Pro Arg Lys Asp	Leu Ile Val Met Leu	Arg Asp Thr Asp	Val Asn Lys		
	1205		1210		1215
Lys Asp Lys Gln	Lys Arg Thr Ala Leu	His Leu Ala Ser	Ala Asn Gly		
	1220		1225		1230
Asn Ser Glu Val	Val Lys Leu Leu Leu	Asp Arg Arg Cys	Gln Leu Asn		
	1235		1240		1245
Val Leu Asp Asn	Lys Lys Arg Thr	Ala Leu Ile Lys	Ala Val Gln	Cys	
	1250		1255		1260
Gln Glu Asp Glu	Cys Ala Leu Met Leu	Leu Glu His Gly	Thr Asp Pro		
	1265		1270		1275
Asn Ile Pro Asp	Glu Tyr Gly Asn Thr	Thr Leu His Tyr	Ala Ile Tyr		
	1285		1290		1295
Asn Glu Asp Lys	Leu Met Ala Lys Ala	Leu Leu Leu Tyr	Gly Ala Asp		
	1300		1305		1310
Ile Glu Ser Lys	Asn Lys His Gly Leu	Thr Pro Leu Leu	Leu Gly Val		
	1315		1320		1325
His Glu Gln Lys	Gln Gln Val Val Lys	Phe Leu Ile Lys	Lys Lys Ala		
	1330		1335		1340
Asn Leu Asn Ala	Leu Asp Arg Tyr Gly	Arg Thr Ala Leu	Ile Leu Ala		
	1345		1350		1355
Val Cys Cys Gly	Ser Ala Ser Ile Val	Ser Leu Leu Leu	Glu Gln Asn		
	1365		1370		1375
Ile Asp Val Ser	Ser Gln Asp Leu Ser	Gly Gln Thr Ala	Arg Glu Tyr		
	1380		1385		1390
Ala Val Ser Ser	His His His Val	Ile Cys Gln Leu	Leu Ser Asp	Tyr	
	1395		1400		1405
Lys Glu Lys Gln	Met Leu Lys Ile Ser	Ser Glu Asn Ser	Asn Pro Glu		
	1410		1415		1420
Gln Asp Leu Lys	Leu Thr Ser Glu Glu	Glu Ser Gln Arg	Phe Lys Gly		
	1425		1430		1435
Ser Glu Asn Ser	Gln Pro Glu Lys Met	Ser Gln Glu Pro	Glu Ile Asn		
	1445		1450		1455
Lys Asp Gly Asp	Arg Glu Val Glu Glu	Glu Met Lys Lys	His Glu Ser		

120

Asn	Asn	Val	Gly	Leu	Leu	Glu	Asn	Leu	Thr	Asn	Gly	Val	Thr	Ala	Gly
1475							1480					1485			
Asn	Gly	Asp	Asn	Gly	Leu	Ile	Pro	Gln	Arg	Lys	Ser	Arg	Thr	Pro	Glu
1490							1495				1500				
Asn	Gln	Gln	Phe	Pro	Asp	Asn	Glu	Ser	Glu	Glu	Tyr	His	Arg	Ile	Cys
1505					1510				1515						152
Glu	Leu	Val	Ser	Asp	Tyr	Lys	Glu	Lys	Gln	Met	Pro	Lys	Tyr	Ser	Ser
				1525					1530						1535
Glu	Asn	Ser	Asn	Pro	Glu	Gln	Asp	Leu	Lys	Leu	Thr	Ser	Glu	Glu	Glu
			1540				1545						1550		
Ser	Gln	Arg	Leu	Glu	Gly	Ser	Glu	Asn	Cly	Gln	Pro	Glu	Lys	Arg	Ser
		1555					1560					1565			
Gln	Glu	Pro	Glu	Ile	Asn	Lys	Asp	Gly	Asp	Arg	Glu	Leu	Glu	Asn	Phe
1570					1575						1580				
Met	Ala	Ile	Glu	Glu	Met	Lys	Lys	His	Gly	Ser	Thr	His	Val	Gly	Phe
1585					1590				1595						160
Pro	Glu	Asn	Leu	Thr	Asn	Gly	Ala	Thr	Ala	Gly	Asn	Gly	Asp	Asp	Gly
			1605					1610						1615	
Leu	Ile	Pro	Pro	Arg	Lys	Ser	Arg	Thr	Pro	Glu	Ser	Gln	Gln	Phe	Pro
			1620					1625						1630	
Asp	Thr	Glu	Asn	Glu	Glu	Tyr	His	Ser	Asp	Glu	Gln	Asn	Asp	Thr	Gln
		1635					1640					1645			
Lys	Gln	Phe	Cys	Glu	Glu	Gln	Asn	Thr	Gly	Ile	Leu	His	Asp	Glu	Ile
		1650				1655					1660				
Leu	Ile	His	Glu	Glu	Lys	Gln	Ile	Glu	Val	Val	Glu	Lys	Met	Asn	Ser
1665					1670				1675						168
Glu	Leu	Ser	Leu	Ser	Cys	Lys	Lys	Glu	Lys	Asp	Ile	Leu	His	Glu	Asn
			1685					1690						1695	
Ser	Thr	Leu	Arg	Glu	Glu	Ile	Ala	Met	Leu	Arg	Leu	Glu	Leu	Asp	Thr
		1700						1705					1710		
Met	Lys	His	Gln	Ser	Gln	Leu									
			1715												

<210> 379
 <211> 656
 <212> PRT
 <213> Homo sapien

Met	Val	Val	Glu	Val	Asp	Ser	Met	Pro	Ala	Ala	Ser	Ser	Val	Lys	Lys
1				5					10					15	
Pro	Phe	Gly	Leu	Arg	Ser	Lys	Met	Gly	Lys	Trp	Cys	Cys	Arg	Cys	Phe
			20					25					30		
Pro	Cys	Cys	Arg	Glu	Ser	Gly	Lys	Ser	Asn	Val	Gly	Thr	Ser	Gly	Asp
		35					40					45			
His	Asp	Asp	Ser	Ala	Met	Lys	Thr	Leu	Arg	Ser	Lys	Met	Gly	Lys	Trp
		50				55					60				
Cys	Arg	His	Cys	Phe	Pro	Cys	Cys	Arg	Gly	Ser	Gly	Lys	Ser	Asn	Val
65					70					75					80
Gly	Ala	Ser	Gly	Asp	His	Asp	Asp	Ser	Ala	Met	Lys	Thr	Leu	Arg	Asn
				85				90						95	
Lys	Met	Gly	Lys	Trp	Cys	Cys	His	Cys	Phe	Pro	Cys	Cys	Arg	Gly	Ser
			100					105					110		
Gly	Lys	Ser	Lys	Val	Gly	Ala	Trp	Gly	Asp	Tyr	Asp	Asp	Ser	Ala	Phe
		115					120					125			
Met	Glu	Pro	Arg	Tyr	His	Val	Arg	Gly	Glu	Asp	Leu	Asp	Lys	Leu	His
		130				135					140				
Arg	Ala	Ala	Trp	Trp	Gly	Lys	Val	Pro	Arg	Lys	Asp	Leu	Ile	Val	Met
145					150					155					160
Leu	Arg	Asp	Thr	Asp	Val	Asn	Lys	Lys	Asp	Lys	Gln	Lys	Arg	Thr	Ala
				165				170							175

Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val Val Lys Leu Leu
 180 185 190
 Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr
 195 200 205
 Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met
 210 215 220
 Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn
 225 230 235 240
 Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys Leu Met Ala Lys
 245 250 255
 Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly
 260 265 270
 Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys Gln Gln Val Val
 275 280 285
 Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr
 290 295 300
 Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile
 305 310 315 320
 Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser Ser Gln Asp Leu
 325 330 335
 Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser His His His Val
 340 345 350
 Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln Met Leu Lys Ile
 355 360 365
 Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu
 370 375 380
 Glu Glu Ser Gln Arg Phe Lys Gly Ser Glu Asn Ser Gln Pro Glu Lys
 385 390 395 400
 Met Ser Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp Arg Glu Val Glu
 405 410 415
 Glu Glu Met Lys Lys His Glu Ser Asn Asn Val Gly Leu Leu Glu Asn
 420 425 430
 Leu Thr Asn Gly Val Thr Ala Gly Asn Gly Asp Asn Gly Leu Ile Pro
 435 440 445
 Gln Arg Lys Ser Arg Thr Pro Glu Asn Gln Gln Phe Pro Asp Asn Glu
 450 455 460
 Ser Glu Glu Tyr His Arg Ile Cys Glu Leu Val Ser Asp Tyr Lys Glu
 465 470 475 480
 Lys Gln Met Pro Lys Tyr Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp
 485 490 495
 Leu Lys Leu Thr Ser Glu Glu Glu Ser Gln Arg Leu Glu Gly Ser Glu
 500 505 510
 Asn Gly Gln Pro Glu Leu Glu Asn Phe Met Ala Ile Glu Glu Met Lys
 515 520 525
 Lys His Gly Ser Thr His Val Gly Phe Pro Glu Asn Leu Thr Asn Gly
 530 535 540
 Ala Thr Ala Gly Asn Gly Asp Asp Gly Leu Ile Pro Pro Arg Lys Ser
 545 550 555 560
 Arg Thr Pro Glu Ser Gln Gln Phe Pro Asp Thr Glu Asn Glu Glu Tyr
 565 570 575
 His Ser Asp Glu Gln Asn Asp Thr Gln Lys Gln Phe Cys Glu Glu Gln
 580 585 590
 Asn Thr Gly Ile Leu His Asp Glu Ile Leu Ile His Glu Glu Lys Gln
 595 600 605
 Ile Glu Val Val Glu Lys Met Asn Ser Glu Leu Ser Leu Ser Cys Lys
 610 615 620
 Lys Glu Lys Asp Ile Leu His Glu Asn Ser Thr Leu Arg Glu Glu Ile
 625 630 635 640
 Ala Met Leu Arg Leu Glu Leu Asp Thr Met Lys His Gln Ser Gln Leu
 645 650 655

<210> 380

122

<211> 671
 <212> PRT
 <213> Homo sapien

<400> 380
 Met Val Val Glu Val Asp Ser Met Pro Ala Ala Ser Ser Val Lys Lys
 1 5 10 15
 Pro Phe Gly Leu Arg Ser Lys Met Gly Lys Trp Cys Cys Arg Cys Phe
 20 25 30
 Pro Cys Cys Arg Glu Ser Gly Lys Ser Asn Val Gly Thr Ser Gly Asp
 35 40 45
 His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys Met Gly Lys Trp
 50 55 60
 Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Asn Val
 65 70 75 80
 Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Asn
 85 90 95
 Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys Cys Arg Gly Ser
 100 105 110
 Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe
 115 120 125
 Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu Asp Lys Leu His
 130 135 140
 Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met
 145 150 155 160
 Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln Lys Arg Thr Ala
 165 170 175
 Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val Val Lys Leu Leu
 180 185 190
 Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr
 195 200 205
 Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met
 210 215 220
 Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn
 225 230 235 240
 Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys Leu Met Ala Lys
 245 250 255
 Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly
 260 265 270
 Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys Gln Gln Val Val
 275 280 285
 Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr
 290 295 300
 Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile
 305 310 315 320
 Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser Ser Gln Asp Leu
 325 330 335
 Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser His His His Val
 340 345 350
 Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln Met Leu Lys Ile
 355 360 365
 Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu
 370 375 380
 Glu Glu Ser Gln Arg Phe Lys Gly Ser Glu Asn Ser Gln Pro Glu Lys
 385 390 395 400
 Met Ser Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp Arg Glu Val Glu
 405 410 415
 Glu Glu Met Lys Lys His Glu Ser Asn Asn Val Gly Leu Leu Glu Asn
 420 425 430
 Leu Thr Asn Gly Val Thr Ala Gly Asn Gly Asp Asn Gly Leu Ile Pro
 435 440 445
 Gln Arg Lys Ser Arg Thr Pro Glu Asn Gln Gln Phe Pro Asp Asn Glu

450		455		460
Ser Glu Glu Tyr His Arg Ile Cys Glu Leu Val Ser Asp Tyr Lys Glu				
465		470		475
Lys Gln Met Pro Lys Tyr Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp				
	485		490	495
Leu Lys Leu Thr Ser Glu Glu Glu Ser Gln Arg Leu Glu Gly Ser Glu				
	500		505	510
Asn Gly Gln Pro Glu Lys Arg Ser Gln Glu Pro Glu Ile Asn Lys Asp				
	515		520	525
Gly Asp Arg Glu Leu Glu Asn Phe Met Ala Ile Glu Glu Met Lys Lys				
	530		535	540
His Gly Ser Thr His Val Gly Phe Pro Glu Asn Leu Thr Asn Gly Ala				
	545		550	555
Thr Ala Gly Asn Gly Asp Asp Gly Leu Ile Pro Pro Arg Lys Ser Arg				
	565		570	575
Thr Pro Glu Ser Gln Gln Phe Pro Asp Thr Glu Asn Glu Glu Tyr His				
	580		585	590
Ser Asp Glu Gln Asn Asp Thr Gln Lys Gln Phe Cys Glu Glu Gln Asn				
	595		600	605
Thr Gly Ile Leu His Asp Glu Ile Leu Ile His Glu Glu Lys Gln Ile				
	610		615	620
Glu Val Val Glu Lys Met Asn Ser Glu Leu Ser Leu Ser Cys Lys Lys				
	625		630	635
Glu Lys Asp Ile Leu His Glu Asn Ser Thr Leu Arg Glu Glu Ile Ala				
	645		650	655
Met Leu Arg Leu Glu Leu Asp Thr Met Lys His Gln Ser Gln Leu				
	660		665	670

<210> 381
 <211> 251
 <212> DNA
 <213> Homo sapien

<400> 381
 ggagaagcgt ctgctggggc aggaaggggt ttccctgccc tctcacctgt cctcaccaa 60
 ggtaacatgc ttccctaag ggtatcccaa ccagggggcc tcaccatgac ctctgagggg 120
 ccaatatccc aggagaagca ttggggaggt gggggcaggt gaaggacca ggactcacac 180
 atctggggcc tccaaggcag aggagagggt cctcaagaag gtcaggagga aatccgtaa 240
 caagcagtca g 251

<210> 382
 <211> 3279
 <212> DNA
 <213> Homo sapiens

<400> 382
 cttcctgcag cccctctgct gglgaggggc acgggcagga acagtggacc caacatggaa 60
 atgclggagg gtgtcaggaa gtatcgggc tctggggcag ggaggagggg tggggagtggt 120
 ccttggggag ggacatcctg cagaaggtag gagtggcga acacccgctg caggggagggt 180
 ggaagccctg cggcacctgg gggagcagag ggagcagcac ctgcccaggc ctgggaggag 240
 gggcctggag ggcctgagga ggagcagagg ggcctgcatg ctggagtgag ggcacagggt 300
 cagggcgcga gatggcctca cacagggaag agagggcccc tcttgcaggg cctcacctgg 360
 gccacaggag gacactgctt ttctcttgag gagtacagg ctgtggatgg tgcctggacag 420
 aagaaggaca gggcctggct cagggtgtcca gaggctgtcg ctggcttccc ttggggatca 480
 gactgcaggg agggagggcg gcagggttgt ggggggagtg acgatgagga tgacctgggg 540
 gtggctccag gccttgcccc tgccctgggc ctaccccagc ctccctcaca gtctctggc 600
 cctcagttct tcccctccac tccatcctcc atctggcctc agtgggtcat tctgatcact 660
 gaactgacca taccagagcc tgcccacggc cctccatggc tccccaatgc cctggagagg 720
 ggacatctag tcagagagta gtccgaaga ggtggcctct gcgatgtgcc tgtgggggca 780
 gcatctgca gatgggtccg gccctcatcc tgtgacctg tctgcaggga ctgtcctcct 840
 ggaccttgcc ccttgtgcag gactgggacc ctgaagtccc ctcccctag gccaaagactg 900
 gagccttggt cctctgtgtg gactccctgc ccatattctt gggggagtggt gtctctgaga 960

```

catttctgtc tglccctgag agctgggaat tgcctcagc catctgocctg cgcgggtctg 1020
agagatggag ttgcctagac agttattggg gccaatcttt ctcaotgtgt ctctccctct 1080
ttacccttag gglgattctg ggggtccact tgcctgtaat ggtgtgcttc aaggtatcac 1140
atcctggggc cctgagccat gtgucctgcc tganaagcct gctgtgtaca ccaaggtggt 1200
gccllaccgg asgtggatca aggaacccat cgcagccaac cctgagtgc cctgtacca 1260
cccctacctc tegttaattt aagtccacct cactttcttg catcacttgg cctttctgga 1320
tgcctggacac ctgaagcttg gaactccact ggccgaagct cgagcctcct gagtccact 1380
gcctgtgctc ttcgtgtgtg gagtccaggg ctgctaggaa aaggaaatggg cagacacagg 1440
tgtatgccaa tglttctgaa atgggtataa ttctgctc tocttcggaa cactggctgt 1500
ctctgaagac ttctgctca gttlcagtga ggaacacac aaagacgttg gtgacctgt 1560
tgtttgtggg gtacagagat ggggggggtg gggcccaccc tggagagtg gacagtga 1620
caaggtggac actctctaca gatcactgag gataagctgg aqccacaatg catgaggcac 1680
acacacagca aggttgagc tgtaaacata gccccccttg tctgggggc actgggaagc 1740
ctagaAaagg ccgtgagcag aagaaagggg aggaactctc talqctgttg aaggagggac 1800
tagggggaga aactgaagc tgattaatta caggagggltt gttcaggtcc cccaaaccac 1860
cgtcagattt gatgatttc tagcaggact tacagaaatc aagagctatc atgctgtgtg 1920
ttattatggt ttgttacatt gataggatag atactgaaat cagcaacac aacagatgta 1980
tagattagag tgtggagaaa acagaggaaa acttgacagt acgaagactg gcaacttggc 2040
ttactaagt ttccagactg gcaggaaagt aaacctatta ggctgaggac cttgtggagt 2100
gtagctgac cagctgatag aggaactagc caggtggggg cctttccctt tggatggggg 2160
gcatatccga cagttattct ctccaagtgg agacttacgg acagcatata attctccctg 2220
caaggatgta tgataatatg tacaagtaa ttccaactga ggaagctcac ctgatcctta 2280
gtgtccaggg tttttactgg ggtctgtag gacgagtatg gactacttga ataattgacc 2340
tgaagtctc agacctgagg ttccctagag ttcaaacaga tacagcatgg tccagagtcc 2400
cagatgtaca aaacagggg ttcatccaa atcccatct tagcatgaag ggtctggcat 2460
ggcccaaggg ccuagataa tcuaggcaat tgggcagaa atgccaagga atccaatgtc 2520
atctcccagg agttattcaa ggttgagccc ttacttggg atgtacaggc tttagcagt 2580
gcagggcagc tyagtcaacc ttttattgta caggggatga gggaaagggg gaggatgagg 2640
aagccccctt ggggatllgg tttggtcttg tgatcaggtg gtctatgggg ctatccctac 2700
aaagaagaat ccagaaatag gggcacattg aggaatgata ctgagccca agagcatthc 2760
atcattgttt tatttgcctt cttttcacac cattgtgtag ggagggatla ccccccggg 2820
gttatgaaga tggttgaaca cccacacat agcacggag atatgagatc aacagtttct 2880
tagccataga gattcacagc ccagagcagg aggacgctgc acaccatgca ggatgacatg 2940
ggggatgogc togggatttg tgtgaagaa caaggactgt tagaggcagg ctttatagta 3000
acaagaoggt ggggcaact ctgatttccg tgggggaatg tcatggtctt gctttactaa 3060
gttttgagac tggcaggtag tgaacctcat taggctgaga acctgtgtga atgcagctga 3120
ccagctgat agaggaaatg gccaggtggg agcctttccc agtgggttg ggacatatct 3180
ggcagatatt tgtggcactc ctggttacag atactgggg agcaataaa actgaatctt 3240
gttttcagac cttaaaaaaa aaaaaaaa aaaaagtttt 3279

```

<210> 383

<211> 155

<212> PR3

<213> Homo sapiens

<400> 383

Met Ala Gly Val Arg Asp Gln Gly Gln Gly Ala Arg Trp Pro His Thr
5 10 15

Gly Lys Arg Gly Pro Leu Leu Gln Gly Leu Thr Trp Ala Thr Gly Gly
20 25 30

His Cys Phe Ser Ser Glu Glu Ser Gly Ala Val Asp Gly Ala Gly Gln
35 40 45

Lys Lys Asp Arg Ala Trp Leu Arg Cys Pro Glu Ala Val Ala Gly Phe
50 55 60

Pro Leu Gly Ser Asp Cys Arg Glu Gly Gly Arg Gln Gly Cys Gly Gly
65 70 75 80

Ser Asp Asp Glu Asp Asp Leu Gly Val Ala Pro Gly Leu Ala Pro Ala

125

	85		90		95										
Trp	Ala	Leu	Thr	Gln	Pro	Pro	Ser	Gln	Ser	Pro	Gly	Pro	Gln	Ser	Leu
	100							105					110		
Pro	Ser	Thr	Pro	Ser	Ser	Ile	Trp	Pro	Gln	Trp	Val	Ile	Leu	Ile	Thr
	115						120					125			
Glu	Leu	Thr	Ile	Pro	Ser	Pro	Ala	His	Gly	Pro	Pro	Trp	Leu	Pro	Asn
	130					135					140				
Ala	Leu	Glu	Arg	Gly	His	Leu	Val	Arg	Glu						
145					150										

<210> 384
 <211> 557
 <212> DNA
 <213> Homo sapiens

<400> 384
 ggatcctcta gagcgccgc ctactactac taaattcgcg gccgcgtcga cgaagaagag 60
 aasgatgtgt ttgtttttgg actctctgtg gtcccttcca atgctgtggg ttccaacca 120
 ggggaagggt ccccttttgc ttgccaagt ccataacct gagcaactact ctaccatggg 180
 tctgcctcct ggccaagcag gctgggttgc aagaatgaaa tgaatgattc tacagctagg 240
 acttaacctt gaaatggaaa gtcttgcatt cccatttgcg ggatccgtct gtgcacatgc 300
 ctctgtagag agcagcattc ccagggaact tggaaacagt tggcaactga aggtgcttgc 360
 tcccgaagac acatccctaaa aggtgtttgt atggtgaaaa cgtcttccct ctttatttgc 420
 ccttcttatt tatgtgaaca actgtttgtc tttttttgta tcttttttaa actgtaaaag 480
 tcaattgtga aattgcaat catgcacata aattatgcga ttttttttct aaagtaaaa 540
 aaaaaaa 557

<210> 385
 <211> 337
 <212> DNA
 <213> Homo sapiens

<400> 385
 ttcccagggt atgtgcgagg gaagacacat ttactatcct tgatggggct gattccttta 60
 gtttctctag cagcagatgg gttaggagga agtgacccaa gtggttgact cctatgtgca 120
 tctcaaagcc atctgctgtc ttcgagtaag gacacatcat cactcctgca ttgttgatca 180
 aaacgtggag gtgcttttcc tcagctaaga agcccttagc azaagctuga atagacttag 240
 tatcagacag gtccagtttc ugcaccaaaca cctgctgggt cctgtcgtg gctcggatct 300
 ctttggccac caattccccc ttttccacat cccggca 337

<210> 386
 <211> 300
 <212> DNA
 <213> Homo sapiens

<400> 386
 gggcccgcta ccggcccagg ccccgccctcg cgagtccctc tcccggggtg cctgcccgca 60
 gccgcgtcgg cccagagggt gggcgcgggg ctgcctctac cggctggcgg ctgtaactca 120
 gcgaccttgg cccgaaggct ctagcaagga cccaccgacc ccagccgcgg cggcgcgggc 180
 gcggaacttg ccgggtgtgt gggcgcgagc ggactgcgtg tcccgggacg ggcagcgaag 240
 atggttagcct tcgctgccag gaccgtggac cgatcccagg gctgtggtgt aacctcagcc 300

<210> 387
 <211> 537
 <212> DNA
 <213> Homo sapiens

```

<400> 387
gggcccgaatc  gggcaccgaag  ggactctttg  caggcttccct  tccctcggatc  atcaaggctg  60
ccccctccctg  tgcacatcatg  atcagcaacct  atgagttcgg  caaaagcttc  ttccagaggc  120
tgaaccaggga  ccggcttctg  gggggclgaa  aggggcdaagg  aggcaggagc  cccgtctctc  180
caccggatgg  ggagaggga  ggaggagacc  cagccaaagtg  ctttttccctc  agcactgagg  240
gaggggggtt  gtttcccttc  cctcccggcg  ccaagctcca  gggcagggct  gtccctctgg  300
ggggcccagc  acttccctcg  ccccaacttc  tccctgctgc  tccagtcgtg  gggatcatca  360
cttaccacc  ccccaagttc  aagaccaaat  ctccagctg  ccccccctgt  gtttccctgt  420
gtttgctgta  gctgggcatg  tctccaggga  ccaaggagcc  ctccagcctg  tgtagtctcc  480
ctgacccttg  ttaattcctt  aagtctaaag  atgtggaact  tcaaaaaaaa  aaaaaaa  537

```

```

<210> 388
<211> 520
<212> DNA
<213> Homo sapiens

```

```

<400> 388
aggataattt  ttaaaccaat  caaatgaaaa  aaacaaacaa  acaaaaaagg  aatgtctatg  60
tgaggttaaa  ccagtttgca  ttccoctaat  gtggaaaaag  taagaggact  actcagcact  120
gtttgaagat  tgccctctct  acagcttctg  agaattgtgt  tatttcaactt  gccaaagtga  180
ggacccccc  cccaacatgc  ccagccccc  cccaaagcat  ggtcccttgt  caccaggcaa  240
ccaggaaact  gctacttgtg  gacctcacc  gagccaggga  ggggtttggt  agctcacagg  300
acttccccc  cccagagaag  ttagcatccc  atactagact  catactcaac  tcaactaggc  360
tactactcaa  ttgatgggta  ttagacaatt  ccatttcttt  ctgggtatta  taacacagaaa  420
atcttcccl  ttctcattac  cagttaaagg  tcttggtatc  tttctgttgg  aatgatttct  480
atgaacttgt  uttattttaa  tgggtgggtt  tttttctggt  520

```

```

<210> 389
<211> 365
<212> DNA
<213> Homo sapiens

```

```

<400> 389
cggtgcccc  gtttgacaga  aggaaggcg  gagcttattc  aaagtctaga  gggagtggag  60
gagttaaagg  tggatttcag  atctgctgg  ttccagccgc  agtgtgccct  ctgctcccc  120
uucgacttcc  caataatct  caccagcgcc  ttccagctca  ggcgtccctag  aagcgtcttg  180
aagcctatgg  ccagctgtct  ttgtgttccc  tctccccgc  ctgtccctac  agctgagact  240
cccaggaaac  ctccagacta  ccttccctct  ccttcagcaa  ggggcgttgc  ccacattctc  300
tgagggtcag  lggaaagacc  tagactccca  ttgctagagg  tagaaagggg  aagggtgctg  360
q44ag  365

```

```

<210> 390
<211> 221
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(221)
<223> n = A, T, C or G

```

```

<400> 390
tgccctctcc  tccctggccc  gacttctctg  tcaggaaagt  ggggatggac  cccatctgca  60
tacacggntt  ctcatgggtg  tggaaatct  ctgcttgccg  ttccagggaag  gcctctggct  120
gctctangag  tetganenya  ntggttggcc  cantntgaca  naaggaaagg  cggagcttat  180
tcaaagctca  gagggaagtg  aggaaglaag  gctggatttc  a  221

```

```

<210> 391
<211> 325
<212> DNA
<213> Homo sapiens

```

127

<220>
 <221> misc_feature
 <222> (1)...(325)
 <223> n = A,T,C or G

<400> 391
 tggagcaggt cccgaggcct ccttagagcc tggggccgac tctgtgncga tgcangcttt 60
 ctctcgcgcc cagcctggag ctgclctgg catctaccaa caalcaagncg aggcgagcag 120
 tagccagggc actgctgcca avagccagtc cnnataccat catgtnaccg ggtgngctct 180
 naantctngat ntccanagcc ctacccatcn tagtctctgt ctcccaccgg ntaccagccc 240
 caactgccag gaatectaca gccagtaacc tglcccgcag tctctaccct ccagtacgat 300
 gaggcctcug gtaactacta tgacc 325

<210> 392
 <211> 277
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(277)
 <223> n = A,T,C or G

<400> 392
 atattgttta actccttcoo ttatatcttt taacattttc atggngaaag gtccacatct 60
 agtctcactt nggcnagngn ctcttacctg agtctcttcc ccggcctggn ccagtnqnea 120
 antaccanga accgncatgn cttaanaacn ncctggtttt tgggttnntc aatgcclgca 180
 tgcagtgcaac caccctgtcc actacgtgat gutgtaggat taaggtctca caqlgqgcgg 240
 ctgaggatag agcgccgcgt cctgtgttgc tggggaa 277

<210> 393
 <211> 566
 <212> DNA
 <213> Homo sapiens

<400> 393
 actagtcacg tgtggtggaa ttgcggcccg cgtcgacgga caggtcagct gtctggetca 60
 gtgatctaca ttctgaagtt gtctgaaaat gtcttcatga tttaattcag cctaaacggt 120
 ttgcggggaa cactgcagag acaatgctgt gaggtttucac ccttagccca tctgcgggca 180
 gagaaggtct agtttgtcca tcagcattat catgatata ggaactggtta ctggttaag 240
 gaggggtcta ggagatctgt cctttttaga gacacettac ttatvctgaa glatttggga 300
 ggggtggttt caaaagttag aatgtuctgt ottccgalqa tontcctgla aacattttat 360
 catttattaa tcatucctgc ctgtqlctat tatttatctc atctctctac gctggaaact 420
 ttctgcctca atglttactg tgcctttgtt trtctctagt tgtgttgttg aaaaaaaaaa 480
 catctcctgc ctgactttta atttttglcc aaagttattt taatctatag aattaaaagc 540
 ttttgcctat caaaaaaaa aaaaaa 566

<210> 394
 <211> 384
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(384)
 <223> n = A,T,C or G

<400> 394
 gaacatacat gtcccggcac ctgagctgca gtctgacatc atcquuatac cgggcctcgc 60
 tgcaaatlng gaccgggcca aggetggact gctgggucgt gtgaaggagc tacaggccna 120
 gcaggaggac cgggctttta ggagttttta gctgaqlctc aciqtagacc ccaaalacca 180
 tcccaagatt atcgggagaa aggggqcgat aattacccaa atccggttgg agcatgacgt 240

128

```

gaacatccag tttcctgata aggacgatgg gaaccagccc caggaccaaa ttaccatcac 300
agggtacgaa aagaacacag aagctgccag ggatgctata ctgagaattg tgggtgaact 360
tgagcagatg gtttctgagg acgt 384

```

```

<210> 395
<211> 399
<212> DNA
<213> Homo sapiens

```

```

<400> 395
ggcaaaactg tgtgacctca ataagacctc gcagatccaa ggtcaagtat cagaagtga 60
tctgaccttg gactccaaga cctacatcaa cagcctggct atattagatg atgagccagt 120
tatcagagggt ttcatcattg cggaaattgt gtagtctaag gaaatcatgg cctctgaagt 180
attcaagctct ttccagtacc ctgagttctc tatagagttg cctaacaacg gcagaattgg 240
ccagctactt gtctgcaatt gtatcttcaa gaataccctg gccatccctt tgactgaagt 300
caagttctct ttggaaagcc tgggcattct ctcactacag acctctgacc atgggacggg 360
gcagcctggt gagaccatcc aatcccaaat aaaatgcac 399

```

```

<210> 396
<211> 403
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(403)
<223> n = A,T,C or G

```

```

<400> 396
tggagtnttc agtgcasaca agccataaag ctccagtagc aaattactgt ctacagaaa 60
gacattttca acttctgtct cagctgctga taanacaaat catgtgttta gcttgactcc 120
agacaaggac aacctgttcc ttcatnaactc tctagagaaa naaaggagtt gttaytaget 180
actaaaaaaa gtggatgaat aatctggata tttttcctaa aagatttctt tgaacacac 240
taggaaaatg gagggcctta tgatcagaat gctagaatta gtccattgtg ctgaagcagg 300
gtttagggga gggagtggg gatannaga ggaaaaaaa aaguytgaga aaacctatt 360
atcaaaagcag gtgctatcac tcaatgttag gccctgctct ttt 403

```

```

<210> 397
<211> 100
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(100)
<223> n = A,T,C or G

```

```

<400> 397
actagtncag tgtggtggaa ttgcgggccg cgtcgacctc naanccatcl ctatagcaaa 60
tccatcccag ctccctggtg gtnacagaat gactgcacaa 100

```

```

<210> 398
<211> 278
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(278)
<223> n = A,T,C or G

```

```

<400> 398

```

129

```

ggggccgcgt cgacagcagt tccgcccgcg ctgcccctg ggtggygatg tgcctgcacgc 60
ccacctggac atctggaagt cagcggcctg gatgaagag cggacttcac ctggggcgat 120
tcaactactgt gccctgacca gtgaggaag ctggaccgac agcggggtgg actcatcatg 180
ctccgggcag cccatccacc tgtggcagtc cctcaggag ttgctatcca agcuccacag 240
ctatggccgc ttcattangt ggcctcaccg ggaagagg          278

```

```

<210> 399
<211> 298
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(298)
<223> n = A,T,C or G

```

```

<400> 399
acggaggtgg aggaagcgnc cctgggatcg anaggatggg tccctgncatt gacnccctcn 60
ggggtgccng catggagcgc atgggcgcgg gccctgggcca cggcatggat cgcgtgggct 120
ccgagatcga gcgcattggc ctggtcatgg accgcatggg ctccgtggag cgcattgggct 180
ccggcattga gcgcattggc ccgctgggcc tcgaccacat ggccctccanc attganccga 240
tgggcccagac catggagcgc attggctctg gcgtggagcn catgggtgcc ggcattggg 298

```

```

<210> 400
<211> 348
<212> DNA
<213> Homo sapiens

```

```

<400> 400
acatcaacta ctctctcatt ltaagggtat gcagttccct tcatcccttt ttccctgccll 60
gtacatgtac atgtatgaaa ttctcttctc ttaccgaact ctctccacac atcacaagggt 120
caaagaacca cagccttaga agggtaagag ggacacctat gaaatgaaat ggtgatttct 180
tgagtctctt ttttccacgt ttaagggggc atggcaggac ttagagttgc gagttaagac 240
tgagaggggc tagagaatta ttcatfacag gctttgaggg caccocatgc acttatcccg 300
tataccctct caccatcccc ttgtctactc tgatgcccc aagatgcaac tgggcagcta 360
gttgccccca taattctggg cctttgttgt ttgttttaat tacttgggca tccaggaag 420
ctttccagtg atctcctacc atgggcccc ctctctggat caagccctc ccaggccctg 480
tccccagccu ctctgcccc agcccaaccg cttgccttgg tgcctagccc tcccatggg 540
agcaggtt          548

```

```

<210> 401
<211> 355
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(355)
<223> n = A,T,C or G

```

```

<400> 401
actgtttcca tgttatgttt ctacacattg ctacctcagt gctcctggaa acttagcttt 60
tgatgtctcc aagtagtcca ccttcattta actctttgaa actgtatcat ctttgccaag 120
taagagtggg ggcctatttc agctgctttg acaaaatgac tggctcctga cttaacgttc 180
tatcaatgaa tgtgctgaag caaagtgcc atggtggcgg cgaagaagan aaagatgtgt 240
tttgttttgg actctctgtg gtcccttcca atgctgnggg ttccaacca ggggaagggt 300
cccttttgca ttgccaagt ccataaccat gagcactact ctaccatggg tctgc 355

```

```

<210> 402
<211> 401
<212> DNA
<213> Homo sapiens

```

130

<220>
 <221> misc_feature
 <222> (1)...(407)
 <223> n = A,T,C or G

<400> 402
 atggggcagg ctggataaag aaccaagacc cactggagla lgctgtcttc aggaagccca 60
 tctcacatgc ggtggcatat ataggctcaa aataaaggga tggagaaaaa tatttcaagc 120
 aeatggaaaa cagaaaaaag caggtgttgc actctacttt tctgacaaaa cagactatgc 180
 gaataaagat aaaaaagaga aggacattac aaaggtgggc ctgacctttg ataatctca 240
 ttgcttgata ccaacctggg ctgttttaat tgcccaaacc aaaaaggataa ttgtctgagg 300
 ttgtggagct tctccctgc agagagtccc tgatctccca aaatttggtt gagatgttag 360
 gntgattttg ctgacaactc cttttctgaa gttttactca ttccaa 407

<210> 403
 <211> 303
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(303)
 <223> n = A,T,C or G

<400> 403
 cagtatttat agcenaactg aaaaagctagt agcaggcaag tctcaaatcc aggcacccaa 60
 tcttaagcaa gagcoatggc atggtgaaaa tgcdaaaggga gaglctggcc aatctacaa 120
 tagagaaaaa gacctactca gtcatgaaca aaaaaggcaga caccacacatg gatctcatgg 180
 gggattggat attgttaata lagagcaggga agatgcacgt gatcglaatt tggcacacaa 240
 tcttaacaac gaccgaaccc cattatttac ataaacctcc attcggtaac catgttgaaa 300
 gga 303

<210> 404
 <211> 225
 <212> DNA
 <213> Homo sapiens

<400> 404
 aagtgttaact tttaaaaatt tagtggttlt tgaaaattct tagaggaaag taaaggaaaa 60
 attgtlaattg caactattta ccttlacatg gtgaaagltc tctcttgatc ctacaaacag 120
 acattttcca ctggtglttc catagttgtt aagtgtatca galgtgttgg gcatgtgaat 180
 ctccaaagtgc clgtgttaata aataaaglat ctttatttca ttcct 225

<210> 405
 <211> 334
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(334)
 <223> n = A,T,C or G

<400> 405
 gagctgttat actgtgagtt ctactaggaa atcatcaaat ctgagggttg tctggaggac 60
 ttcaatacac ctcccccac agtgaatcag ctccaggagg gtccagtccc tctccttact 120
 tcatcccat cccatgcca aggaagaccc tccctctttg gctcacagcc ttctctaggc 180
 ttccacagtgc ctccaggaca gagtgqgtta tgttttcagc tccatccttg ctgtgagtgt 240
 ctgggtgcgg tttgcccaca gctctgtctc agtgcctcat ggacagtgtc cagcccatgt 300
 cactctccac tctctcaann tggatccac ccc 334

131

<210> 406
 <211> 216
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(216)
 <223> n = A,T,C or G

<400> 406
 ttccatacct aatgagggag ttganatnac atnnaaccag gaaatgcctg gatctcaang 60
 gaaacsaaca cccaatasaac tcggagtggc agactgacaa ctgtgagaca tgcacttgct 120
 acnaaacaca aatttnatgt tgcacccttg tttctacacc tgtgggttat gacaaagaca 180
 actgccaaag aatnttcaag aaggaggact gccant 216

<210> 407
 <211> 413
 <212> DNA
 <213> Homo sapiens

<400> 407
 gotgacttgc tagtatcctc tgcattcatt gaagcacaag aacttcctgc cttgactcat 60
 gtaaatgcaa taggattaaa aaataaatft gatataccat ggaacacagc aaaaaatatt 120
 gtacaacatt gcaaccagtg tcagattcta caactggcca ctacaggagc aagagttaat 180
 cccagaggtc tatgtcctaa tgtgttatgg caaatggatg tcatgcaagt accttcattt 240
 ggaatatlgt catttgtcca tgtgacagll gatacttatt cacatttcat atgggcaacc 300
 tgcacagacy gagaagagct lcccatgtta aagagccllt attatcttct ttctctgtca 360
 tggggagttcc agaaaaagt c aaaaacagcc aLggggccagg ttclgtagta aag 413

<210> 408
 <211> 183
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(183)
 <223> n = A,T,C or G

<400> 408
 ggaagctngc ctcaattcc. ccatntctat gttanccalal tteatgtoll ttgnattaa 60
 tncrttaacta gttaatcctt aaagggctan ntastcctta actagtcnct ccatttgtag 120
 cattatcctt ccagtattcn ccttctnttt tatttaactcc ttcttggtta cccatgtact 180
 ntt 183

<210> 409
 <211> 250
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(250)
 <223> n = A,T,C or G

<400> 409
 cccacgcctg ataagctctt latllctgta agtcttqcta ggaatcctc aaatctgacg 60
 gtgggtttgg ggaactgaac aacctctctg taattatua gclltaagtt tctccccccta 120
 gtccctcctt caacacata ggaggalcct ccccttclll ctgctcacag ccttatctag 180
 gcltcccagl gcccacagga cagcgtgggc tatgttaca gggontcctt gctggggggg 240
 ggcantatgc 250

132

<210> 410
 <211> 306
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(306)
 <223> n = A,T,C or G

<400> 410
 ggctgggtttg caagaatgaa atgaatgatt ctacagctag gacttaacct tgaaatggaa 60
 agtctttgcaa tcccatittgc aggatccgtc tgtgcacatg cctctgtaga gagcagcatt 120
 cccaggggacc ttggaaacag ttggcactgt aagggtgcttg ctccccaaga cacatcctaa 180
 aagggtgttgt aatgggtgaaa accgcttccat tctttattgc cccttccttat ttatgtgaac 240
 naatgggttgg cttttctttgn atctttttta aactggaaag ttcaattgng aaaatgaata 300
 tontgc 306

<210> 411
 <211> 261
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(261)
 <223> n = A,T,C or G

<400> 411
 agagatattt cttaggtnaa agttcataga gtcccatga actatatgac tggccaccaca 60
 ggatctttttg tatttaagga ttctgagatt ttgcttgagc aggattagat aaggctgttc 120
 ttttaaatgtc tgaaatggaa cagatttcaa aaaaaaaccc cacaatctag ggtgggaaca 180
 aggaaggaaa gatgtgaata ggctgatggg caaaaaacca atttaccat cagttccayc 240
 cttctctcaa ggnagggcaa a 261

<210> 412
 <211> 241
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(241)
 <223> n = A,T,C or G

<400> 412
 gtccaatgtt acctgacatt totacaacac cccactcacc gatgtattcg ttgccagtg 60
 ggaacatacc agcctgaatt tggaaaaaat aatttgtttt cttgccagg aaatactacg 120
 actgactttg atggctccac aaacataacc cagtgtaaaa acagaagatg tggaggggag 180
 ctgggagatt tcactgggta cattgaattc ccaaaactacc cangcaatta ccagccaac 240
 a 241

<210> 413
 <211> 231
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(231)
 <223> n = A,T,C or G

133

```

<400> 413
aactcttaca atccaagtga ctcactctgtg tqcttgaate ctttccactg tctcctclcc 60
ctcctccaaag tttctagtag cttctctttg ttgtgaaggc taatcnaaci gaacacccaa 120
aagtttctact tctcctattg gaacctaaaa actctcttct tcttgggtct gagggctcca 180
agaatccttg aatcatttct cagatcattg gggacccan atcaggaacc t 231

```

```

<210> 414
<211> 234
<212> DNA
<213> Homo sapiens

```

```

<400> 414
actgtccatg aagcactgag cagaagctgg aggcacacac caccagacac tcacagcaag 60
gatggagctg aaaacataac ccactctgtc ctggaggcac tgggaagcct agagaaggct 120
gtgagccaag gagggagggt ctctctttgg catgggatgg ggatgaagta aggagaggga 180
ctggaccccc tggaaactga ttactatgg ggggagggtg attgaagtcc tcca 234

```

```

<210> 415
<211> 217
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(217)
<223> n = A,T,C or G

```

```

<400> 415
gcacaggatt aagactgagt atcttttcta cattctttta actttcttag gggaacttct 60
caaaacacag accaggtagc aaatctccac tgctctaagg ntctcaccac caatttctca 120
cacctagcaa tagtagaatt cagtctact tctgaggcca gaagaatggt tcagaaaaat 180
antggattat aaaaaataac aattaagaaa aataatc 217

```

```

<210> 416
<211> 213
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(213)
<223> n = A,T,C or G

```

```

<400> 416
atgcataat aaagganact gctctgcttt tagaagacat ctggactgct ctctgcatga 60
ggcacagcag taaagctctt tgattccagc aatcaagaac tctcccttc agactattac 120
cgaatgcaag gtggttaatt gaaggccact aattgatgct caaatagaag gatattgact 180
atattggaac agatggagtc tctactacaa aag 213

```

```

<210> 417
<211> 303
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(303)
<223> n = A,T,C or G

```

```

<400> 417
nagtcttcag gcccatcagg gaagttcaca ctggagagaa gtcatacata tgtactgtat 60

```

134

```

gtgggaaagg ctttactctg agttcaaato ttcaaagcca tcagagagtc cacactggag 120
agaagccata caaatgcaat gagtgtggga agagcttcag gagggaatcc cattatcaag 180
ttcatctagt ggtccacaca ggagaqaaac cctataaatg tgagatatgt gggaaagggc 240
tcantcaaaq ttcgtatctt caaatccate ngauugacca cagtatanan aaacctttta 300
agt
303

```

```

<210> 418
<211> 328
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> {1}...{328}
<223> n = A,T,C or G

```

```

<400> 418
tttttggcgg tggtagggga gggacgggac angagtctca ctctgttgcc caggetggag 60
tgcacaggca tgatctcggc tcaactacaac cctgctcc ccagtccaag cgattcttgt 120
gcttcagcct tccctgtatc tagaattaca ggcacatgcc accacaccca gctagttttt 180
gtatttttag tagagacagg gtttcaccat gttagccagg ctggtctcaa actcctnaac 240
tcagnggtca ggctggtctc aaactcctga cctcaagtga tctgccacc ccagcctccc 300
aaagtgtctan gattacaggc cgtgagcc
328

```

```

<210> 419
<211> 389
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> {1}...{389}
<223> n = A,T,C or G

```

```

<400> 419
cctcctcaag acggcctgtg gtccgcctcc cggcaaccaa gaagcctgca gtgccatctg 60
acccttgagc catggactgg agcctgaaag gcagcgtaca cctgctcct gatcttgctg 120
cttgtttcct ctctgtggct ccattcatag cacagtgtgt gcactgagge ttgtgcaggc 180
cgagcaaggc caagctggct caaagagcaa ccagtcacac ctgucacggg gtgccaggca 240
ccggttctcc agccacccac ctcaactcgt cccgcaaatg gcacatcagt tcttctaccc 300
taaaggtagg accaaagggc atctgcllll ctgaagtccl ctgctctatc agccatcacg 360
tggcagccac tcnagctgtg tcnagcagg
389

```

```

<210> 420
<211> 408
<212> DNA
<213> Homo sapiens

```

```

<400> 420
gttcttcta actcctgcca gaaacagctc tctcaaat gagagctgca cccctcctcc 60
tggccagggc agcaagcctt agccttggct ccttgtttct gcttttttcc tggctagacc 120
gaagtgtact agccaaggag ttgaagtttg tgactttggt gtttcggcat ggagaccgaa 180
gtcccattga cactttccc actgaccccc taaaggaato ctcatggcca caaggatttg 240
gccaactcac ccagctgggc atggagcagc attatgaact tggagagtat ataagaaaga 300
gatataaaaa attcttgaat ggtcctata aacatgaaca gttttataat cgaagcacag 360
acgttgaccg gactttgatg aagtgtctatg acnaacctgg caagcccc
408

```

```

<210> 421
<211> 352
<212> DNA
<213> Homo sapiens

```

<220>
 <221> misc_feature
 <222> (1)...(352)
 <223> n = A,T,C or G

<400> 421
 gctcaaaaat ctttttactg atnngcatgg ctacacaatc attgactatt acggaggcca 60
 gaggagaatg aggcctggcc tgggagccct gtgcctacta naagcacatt agattatcca 120
 ttcactgaca gaacaggctt tttttgggtc cttcttctcc accacnatat acttgcagtc 180
 ctcccttcttg aagattcttt ggcagtgctc tttgtcataa cccacaggtg tagaaacaag 240
 ggtgcacat gaaatttctg ttccgtagca agtgcagtc tcacaagttg gcangtctgc 300
 cactccaggt ttattgggtg tttgtttcct ttgagatcca tgcatttctc gg 352

<210> 422
 <211> 337
 <212> DNA
 <213> Homo sapiens

<400> 422
 atgccaccat gctggcaatg cagcggggcg tcgaaggcct gcatatccag cccaagctgg 60
 cgtatgatcga cggcaaccgt tgcgccgaagt tgcgatgcc agcugaagcg gtggtcaagg 120
 gogatagcaa ggtgccggcg atcgcgcgcg cgtcattcct ggccaaggtc agccgtgac 180
 gtgaaatggc agctgtcgaa ttgatctacc cgggttatgg catcgycggg catlaagggt 240
 atccgacacc ggtgcacctg gaagccttgc agcggctggg gccgacggcg attcaccgac 300
 gotttttccg ccggtaccgc lggcctatga aaattat 337

<210> 423
 <211> 310
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(310)
 <223> n = A,T,C or G

<400> 423
 gctcaaaaat ctttttactg atatggcatg cctacacaat ccttactat tagaggccag 60
 aggagaatga ggcctggcct gggagccctg tgctactan aagcncatta gattatccat 120
 tcactgacag aacaggctt ttttgggtcc ttcttttccc ccacgatata cttgcagtc 180
 tccctcttga agattctttg gcagttgtct ttgtcataac ccacaggtgt anaacaagg 240
 gtgcacacat aaatttctgt ttccgtagcaa gtgcagttct cacagttgtc aagtctgccc 300
 tccgagttta 310

<210> 424
 <211> 370
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(370)
 <223> n = A,T,C or G

<400> 424
 gctcaaaaat ctttttactg ataggcatgg ctacacaatc attgactatt agaggccaga 60
 ggagaatgag gcctggcctg ggaagccctg gctactaga agcacattat attalccctt 120
 cactgacaga acaggtcttt tttgggtcct tcttctccac caccgatata ttgcagtcct 180
 ccttcttgaa gattcttttg cagttgctt ttgtcataac caccaggtgt gaaacatcct 240
 ggttgaatct cctggaactc cctcattagg tatgaatag catgatgcat tgcataaagt 300
 caccgagggtg gcaagatca caacgtctgc cagganaaca ttcatgtga taagcaggac 360
 tccgtcagac 370

136

<210> 425
 <211> 216
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(216)
 <223> n = A,T,C or G

<400> 425
 aattgctatn ntttattttt ccaactcaaa taattaccaa aaaaaaaaaa tnttaaata 60
 taaccaacna acatcaaggn aaananaaca ggaatggntg actntgcata aatnggcoga 120
 anattatcca ttatnttaag ggttgacttc aggnacagc acacagacaa acatgcccag 180
 gaggnatnca ggaacgctcg atgtnttntg aggagg 216

<210> 426
 <211> 596
 <212> DNA
 <213> Homo sapiens

<400> 426
 ctccagtgga ggataaccct gttgccccgg gccgagggtc tccattagge Lclgattgat 60
 tggcagtcag tgatggaagg gtgttctgat cattccgact gccccagggg tggctggcca 120
 gctctctgtt ttgctgagtt ggcagtagga cctaatttgt taattaaag tagatggta 180
 gctgtccttg tattttgatt aacctaatgg ccttccagc acgactcga ttcagctgga 240
 gacatcaagg caacttttaa tgaatgatt tgaagggcca ttaagaggca ctccccgtta 300
 ttaggcagtt catctgcact gataacttct tggcagctga gctggteggg gctgtggccc 360
 aaacgcacac ttggcttttg gttttgagat acaactctta atcttttagt catgcttgag 420
 ggtggatggc cttttcagct ttanccccat ttgcaactgc ttggaagtgt agccaggaga 480
 atacactcat atactcgtgg gcttagaggg cacagcaaat gtcattgggt tactgctga 540
 gtcccgctgg Lcccatccca ggaccltcca tccgcagata cctgggagcc cgtgct 596

<210> 427
 <211> 107
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(107)
 <223> n = A,T,C or G

<400> 427
 gaagaattca agttagggtt attcaaaggg cttacngaga atccfanacc caggncocag 60
 cccgggaqca gccctanaga gtcctgttt gactgcccgg ctcagng 107

<210> 428
 <211> 38
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(38)
 <223> n = A,T,C or G

<400> 428
 gaacttcnna anaangaact tattcactat ttacatt

38

<210> 429

137

<211> 544
 <212> DNA
 <213> Homo sapiens

<400> 429
 ctttgctgga cgggaataaaa gtggacgcaa gcatgacctc ctgalgaggg cgcctgcattt 60
 attgaagagc ggctgcagcc ctgcgggtca gattaaaatc cgggaattgt alagacgccc 120
 atatccacga actcttgaag gaatttctga ttctccaca atcaaatcat cgggtttcag 180
 tttagatggg ggctcatcac ctgtagaacc tgacttgccc gtggctggaa tccactcggt 240
 gcttccact tcagttacac ctcactcac atcclctcct gttggttctg tgcctgttca 300
 agatactaag cccacatttg agatgcagca gccatctccc ccaattccct ctgtccatcc 360
 tgatgtgcag ttaaaaaatc tgcclctt tgatgacct gatgttctca tcaagccac 420
 gattttagtt caaagcagta ttacgcgatt tcaagagaag ttttttattt ttgctttgac 480
 acctcaacaa gttagagaga tctgcactc cagggatttt ttgccagggt gtaggagaga 540
 ttat 544

<210> 430
 <211> 507
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc feature
 <222> (1)...(507)
 <223> n = A,T,C or G

<400> 430
 ottatcncaa tggggctccc aaacttggct gtgcagtyga aautccgggg gaattttgaa 60
 gaacactgac acccatcttc caccocgaca ctctgattta atgggctgc aglgagaaca 120
 gacatcaat ttaaaaagct qccacgaatg tntcctggg cagcgttgtg atctttgccc 180
 ccttctgac tttatgcaat gcatcatgct atttcatacc taatgaggga gttccaggag 240
 attcaaccag gatgtllcta cncctgtggg ttatgacaaa gacacctgcc aaagaatntt 300
 uaagaaaggag gactgcgaat atatcgtggt ggagaagaag gaccacaaaa agacctgttc 360
 tgtcaatgaa tggataatct aatgtgcttc tagtaggcac agggctccca ggccaggcct 420
 cattctcttc tggcctctaa tagtcaatga ttgttagcc atgcctatca gtaaaaagat 480
 (tttgagcaa aaaaaaaaaa aaaaaaa 507

<210> 431
 <211> 392
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc feature
 <222> (1)...(392)
 <223> n = A,T,C or G

<400> 431
 gaaaattcag aatggataaa aacaaatgaa gtacaaaata ttccagattt acatagcgat 60
 aaauaagaaa gcaettolca ggaggactta caaatggaag tacactctan aaccatcatc 120
 tatcatggct aactgtgaga ttagcacagc tgtattattc gtacattgca aacacctaga 180
 aagagatggg aaacaaaatc ccaggagttt tgtgtgtgga gtccctgggt ttccaacaga 240
 catcalleca gcattctgag attaggngga ttggggatca ttctggagtt ggaatgttca 300
 acaaaagtga tgttgttagg taaaatgtac aacttctgga tctatgcaga cattgaaggt 360
 gcaatgagtc tggcttttac totgctgttt ct 392

<210> 432
 <211> 387
 <212> DNA
 <213> Homo sapiens

<220>

<221> misc_feature
 <222> (1)...(387)
 <223> n = A,T,C or G

<400> 432
 ggatcncnta cataatcaaa tatagctgta gtacatgttt tcattggngt agattaccac 60
 aaatgcaagg caacatgtgt agatctcttg tcttattctt ttgtctataa tactgtattg 120
 ngtagtccaa gctctcggna gtccagccac tngaaacat gctcccttta gattaacctc 180
 gtggcncctn ttgttgnatt gtctgaactg tagngccctg tattttgctt ctgtctgnga 240
 attctgttgc ttctggggca ttctcttng atgcagagga ccaccacaca gatgacagca 300
 atctgaattg ntccaatcac agctgcgatt aagacatact gaaatcgtac aggaccggga 360
 acaactgata gaacactgga gtccctt 387

<210> 433
 <211> 281
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(281)
 <223> n = A,T,C or G

<400> 433
 ttcaactaga anagaanact gcttcagggn gtgtaaaatg aaaggcttcc acgcagttat 60
 ctgattcaag aacactaaga gaggggacaag gctagaagcc gcaggatgtc taactatattg 120
 caggcncctat ttgggttggc tggaggagct gtggaaaaca tggagagatt ggcgctggag 180
 atcgccgtgg ctattcctcn ttgntattac accagnagag ntctctgtnt gccactgggt 240
 tnnaaaaccg ntatacaata atgatagaat aggacacaca t 281

<210> 434
 <211> 484
 <212> DNA
 <213> Homo sapiens

<400> 434
 tttcaaaate agcattttagt gctcagtcoc tactgagtag tctttctctc ccctcctctg 60
 aattctaattc tttcaacttg caatttgcaa ggattacaca tttaactgtg atgtatattg 120
 tgttgcaaaa aaaaaaaagt gtctttgttt aaaattactt ggtttgtgaa tccatcttgc 180
 tttttcccc ttggaactag tcattaaccc atctctgaac tggtagaaa acatctgaag 240
 agctagtcta tcagcatctg acaggtgaat tggatggttc tcagaacctt ttcacccaga 300
 cagcctgttt ctatcctgtt taataaatta gtttgggttc tctacatgca taacaaacct 360
 tgctccaate tgtcacataa aagtctgtga cttgaagttt agtcagcacc cccaccaaac 420
 tttatttttc tatgtgtttt ttgcaacata tgagtgtttt gaaaataaag taacctgttc 480
 tttta 484

<210> 435
 <211> 424
 <212> DNA
 <213> Homo sapiens

<400> 435
 gcgcgcgtca gaggcaggtca ctttctgect tccacgtcct ccttcaagga agcccatgt 60
 gggtacgttt caatatcgca ggttcttact cctctgcctc tataagctca aaccaccaa 120
 cgatcgqgca agtaaacccc ctccctcgcc gacttcggaa ctggcgagag ttcagcgag 180
 atgggcctql ggggaggggg caagatagat gagggggagc ggcattgtgc ggggtgacct 240
 cttggcgqga ggaaaaagcc cacaagaggg gctgccaccg ccactaacgg agatggccct 300
 ggtagagacc tttgggggtc tggaaacctc ggaactccca tgctctaact cccacactct 360
 gctatcagaa acttaaacctt gaggattttc tctgttttct actcgcaata aattcagagc 420
 aacc 424

<210> 436

<211> 667
 <212> DNA
 <213> Homo sapiens
 <220>
 <221> misc_feature
 <222> (1)...(667)
 <223> n = A,T,C or G

<400> 436
 accttgggaa nactctcaca atataaaggg tcgtagactt tactccaaat tccaaaaagg 60
 tcctggccat gtaatcctga aagttttccc aaggtagcta taanaatcctt ataagggtgc 120
 agcctcttct ggaattcctc tgatttcaaa gtctcactct caagttcttg aaaaacgagg 180
 cagttcctga aaggcaggta tagcaactga tcttcagaaa gaggaaactgt gtgcacagg 240
 atgggcctgcc agagtaggat aggatccag atgctgacac ctctctggggg aaacagggct 300
 gccaggtttg tcatagcact catcauagtc cagtcaacgt ctgtccltgc aalataaac 360
 tgttcactgt tataggactc attcaagaat lltctatctc tctttcttat atactctc 420
 agttcataat gctgctccat gccacagctg gtgagttggc caaatccttg tggccatgag 480
 gattccctta tggggtcagt gggaaaggctg tcaatgggac ttgggtctcc atgccgaac 540
 accaaagtca caaucttcaa ctctctggct agtacactc ggtctagcca gaaaaaagc 600
 agaaacaaga agccaaaggct aaggccltgc gccctggcag gaggaggggg gcagctctca 660
 tgttgag 667

<210> 437
 <211> 693
 <212> DNA
 <213> Homo sapiens

<400> 437
 ctacgtctca accctcatrt ttaggtaagg aatcttaagt ccaagatat taagtgaactc 60
 acacagccag gtaaggaaag ctgyuttggc acactaggac tctaccalac cgggttttgt 120
 taaagctcag gttaggaggc tgataagctt ggaagggaact tcaagacagt ttttcagatc 180
 ataaagata attcttaguc catgttcttc tccagagcag acctgaactg acagcacagc 240
 aggtactcct ctatcttcac cctcttgcct tclactclcl ggcagtccag cctgtgggag 300
 gccatgggag aaagcagctc tctggatgtt tgtacagatc atggactatt ctctgtggac 360
 catttctcaa ggttaacctc ggtgtcactc ttgggggggac agccagcacc tttagctttc 420
 atttgagltt ctgltctgtc tcaagtagagg aaacttttgc tcttcacact tcacatctga 480
 acaccLaact gctgttgctc ctgaggtggt gaaagacaga tataagagctt acagtattta 540
 tctattttct aggcactgag ggctgtgggg tactttgttg tgcbaaaaca gatcctgttt 600
 taaggacatg ttgcttcaga gatgtctgta actatctggg ggctctgttg gctccttacc 660
 ctgcacatg tgcctctctg gctgaaaatg acc 693

<210> 438
 <211> 360
 <212> DNA
 <213> Homo sapiens

<400> 438
 ctgcttatca caelgaatgt tctcttgggc agcgttctga tcttlqccac cttegtgact 60
 ttatgcaatg catcatgcta ttccalaccl aatgagggag ttccaggaga ttcaaccagg 120
 atgtctctac acctqlgggt tahgacaaag acaactgcca aagaatcttc aagaaggagg 180
 actgcaagta tatctggtgg agcagcaggc cccaaaaaag acctgttctg tcagtgaatg 240
 gataatctaa tgtgcttclg gtaggcaccg ggtctccagg cnaggcctca ttctcctctg 300
 gctctataa qtcaataatt qtgtagccat gctctcagt aaaaagattt ttgagcaaac 360

<210> 439
 <211> 431
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature

140

<222> (1)... (431)
 <223> n = A, T, C or G

<400> 439
 gtctcctnnta actcctgcca gaaacagctc tcttcaacat gagagctgca cccctcctcc 60
 tggccagggc agcaagcctt agccttggct tcttgtttct gcttttttcc tggctagacc 120
 gaagtgtact agccaaggag ttgaagtttg tgactttggt gtttcggcat ggagaccgaa 180
 gtcccattga cacccttccc actgacccca taaaggaatc ctcatggcca caaggatttg 240
 gccaaetcac ccagctgggc atggagcagc attatgaact tggagagtat ataagaaaga 300
 gatatagaaa attcttgaat gagtccctata aacatgaaca ggtttatatt cgaagcacag 360
 acgttgaccg gactttgatg agtgctatga caaacctggc agcccgctga cgcggccgcg 420
 aatttagtag t 431

<210> 440
 <211> 523
 <212> DNA
 <213> Homo sapiens

<400> 440
 agagatanag cttaggtcaa agttcctaga gttcccatga actatctgac tggccacaca 60
 ggatcttttg tatttaagga ttctgagatt ttgcttgagc aggatctgat aaggctgttc 120
 ttttaaatgtc tgaatttgaa cagatttcaa aaaaaaaccc caccatctag ggtgggaaca 180
 aggaaggaaa gctgtgaaat ggctgctggg caaaaaacca atttaccat cagttccagc 240
 ctctctctcaa ggcggggcca agaaaggaga taccgtggag acatctggaa agttttctcc 300
 actggaaaaa tgcctctctc tgtttttata tttctgttaa aatatatgag gctacagaac 360
 taataaatcaa aacctctttg tgtcctttgg tcttggaaaca tttatgttcc ttttaaagaa 420
 acaaaaatca aactttacag aaagatttga tgtatgtaac acatatagca gctcttgaag 480
 tatatatatc atagcaata agtcatctga tgagaacaag cta 523

<210> 441
 <211> 430
 <212> DNA
 <213> Homo sapiens

<400> 441
 gtctcctccta actcctgcca gaaacagctc tcttcaacat gagagctgca cccctcctcc 60
 tggccagggc agcaagcctt agccttggct tcttgtttct gcttttttcc tggctagacc 120
 gaagtgtact agccaaggag ttgaagtttg tgactttggt gtttcggcat ggagaccgaa 180
 gtcccattga cacccttccc actgacccca taaaggaatc ctcatggcca caaggatttg 240
 gccaaetcac ccagctgggc atggagcagc attatgaact tggagagtat ataagaaaga 300
 gatatagaaa attcttgaat gagtccctata aacatgaaca ggtttatatt cgaagcacag 360
 acgttgaccg gactttgatg agtgctatga caaacctggc agcccgctga cgcggccgcg 420
 aatttagtag t 430

<210> 442
 <211> 362
 <212> DNA
 <213> Homo sapiens

<400> 442
 ctaaggaaatt agtagtgttc ccataacttg ttggagtggt gctattctaa aagattttga 60
 ttctctggaa tgacaattat attttaactt tgggtgggga aagagttata ggaccacagt 120
 ctacacttct gatacttgta aatttaactt ttatctgact tgttttgacc attaagctat 180
 atgttttagaa atgttcattt tacggaaaaa ttgagaaaat tctgataata gtgcagaata 240
 aatgaattaa tgttttactt aatttataat gaactgtcaa tgacaaataa aaattctttt 300
 tgattatttt ttgttttcat ttaccagaat aaaaactaag aattaaaagt ttgattacag 360
 tc 362

<210> 443
 <211> 624
 <212> DNA
 <213> Homo sapiens

[41]

<220>
 <221> misc_feature
 <222> (1)...(624)
 <223> n = A,T,C or G

<400> 443
 tttttttttt gcaacacaaat atacatcaca gtgaaatgtg taatccttgc aaattgcaag 60
 ttgaaagaat taaattcaga ggaggggaga gaaagagtac tcagtaggga ctgagcacta 120
 aatgcttatt ttaaaagaaa tgtaaagagc agaaagcaat tcaggctacc ctgccttttg 180
 tgcctggctag tactccggtc ggtgtcagca gcacgtggca ttgaacattg caatgtggag 240
 cccaaaccac agaaaatggg gtgaaattgg ccaactttct attaaacttg ctteoctgtt 300
 tataaaatat tgtgaatnat atcaacctact tcaaagggca gttatgaggc ttaaatgaac 360
 taacgcctac aaaaacacta aacatagata acataggtgc aagtactaig tatctggtac 420
 atggtaaaaca tcttatttat taaagtcaac gctaaaatga atgtgtgtgc atatgcta 480
 agtacagaga gaggggcactt aaaccaacta agggcctgga gggaaaggtt cctggaaaga 540
 ngatgcttct gctgggtcca aatcttggtc tactatgacc ttggccaat tatttzaact 600
 ttglectat ctgctaaaca gata 624

<210> 444
 <211> 425
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(425)
 <223> n = A,T,C or G

<400> 444
 gcacatcatt nntcttgcatt tctttgagaa taagaagatc agtaaatagt tcagaagtgc 60
 gaagctttgt ccaggccctgt gtgtgaaccc aatgttttgc ttagaatag aacaaagtaa 120
 ttcatctcta tagcataacc caaaatttgc ataagtgtgt gtacgcaaat ccttgaatgc 180
 tcttaaatgt gagagggttg taatatcctt tgtgcacac tctaatccc tgaatgtttt 240
 gctgtgctgg gacctgtgca tgcacagacc ggcacagctg gctgaaagag caaccagcca 300
 cctctgcaat ctgccacctc ctgctggcag gctt.tgtttt tgcclcctgl gaagagccaa 360
 ggaggcacca gggcataagt gagtagactt atggtcgacc cggccgcgaa tttagtagta 420
 gtaga 425

<210> 445
 <211> 414
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(414)
 <223> n = A,T,C or G

<400> 445
 catgtttctg nttttggelt actttggqca cctagtgttt ctuaatcgte tatcatcttt 60
 ttctgttttt cbaaagcaga galggccaga gtolcaacaa actgtatctt caaqtctttg 120
 tgaaattctt tgcattgtgc ageltcttgg atgtagtctt ctttaactag catataaetc 180
 tgggtgtgtt cagataaetg aacagcaaaa tctgtgtgaa ttaccatttg gaacattgtg 240
 aatgaaaaat tgtgtctcta gatlatglaa caaatcaacta tttcctaacc attgatcttt 300
 ggatttttat aatcctactc acaaatgaet aggcctctcc tcttgtattt tgaagcagtg 360
 tgggtgctgg attgataaaa aaaaaaaag tgcagcgcgc cgcgaattta gtag 414

<210> 446
 <211> 631
 <212> DNA
 <213> Homo sapiens

142

<220>
 <221> misc_feature
 <222> {1}...{631}
 <223> n = A,T,C or G

<400> 446
 acaaatagga anaaagtggc agagAACacc acataccttg tccggaacat tacaatggct 60
 totgcacgca tgggaagtgt gagcattcfa tcaatatgca ggagccatct tgcaggtgtg 120
 atgctgggtta tactggacaa cactgtgaaa aaaaggacta cagtgttcta tacgttgttc 180
 cuggtcctgt acgatttcag tatgtcttaa tccgagctgt gattggaaac attcagattg 240
 ctgtcatctg tgtggtggtc ctctgcacfa caagggtcaa actttaggta atagcatttg 300
 actgagattt gttaaacttt caacccttca ggaatgtccc cagaagcaac aqaaktcac 360
 gacagaaqaa aatcacaggg cactacagtt cagaacatac aacaagagcg tcccagaggt 420
 taatctaaag ggaacatgtt tccacgtggc lggactcccg agagcttggc clacacaaat 480
 cagtattata gacaaagaa caagacaaag gctctacaca lgttgccctg ctttgtgtgt 540
 aatctacacc aatgaaacaa tgtactacag ctatatattg tctgtatgg atatatattg 600
 aatagtatat attglecttg tgttttttct g 631

<210> 447
 <211> 585
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> {1}...{585}
 <223> n = A,T,C or G

<400> 447
 ccttgggaaa anthtcaca lctaaagggt cgttagacttt actccaaatt ccaaaaagggt 60
 cctggccatg taalcttgaa agttttccca aggtagctat aaatcctta taagggtgca 120
 gcclettctg gaettcctct gatttcaaaag tctcactctc aagttcttga aaacgagggc 180
 agttcctgaa aggcaggtat agcaactgat cttcagaaag aggaactgtg tgcaccggga 240
 tgggctgcca gagtaggata ggattccaga tgcagacacc ttctggggga aacagggctg 300
 ccagggtttg catagcactc atcaaaagtcc ggtcaacgtc tgtgtttcga atataaacct 360
 gttcatgttt ataggactca ttcaagaatt ttctatatct ctttcttata tactctocaa 420
 gttcataatg ctgctccatg ccagctggg tgagttggcc aaatccttgt ggccatgagg 480
 attcctttat ggggtcagtg gaaaaggtgt caatgggact tgggtctcca tgcgaaca 540
 ccaagtcac aaacttcaac tccctggcta gtacacttg gtcta 585

<210> 448
 <211> 93
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> {1}...{93}
 <223> n = A,T,C or G

<400> 448
 tgcctgtggg tcattctgan nncogaactg acctgccag cctgtccgan gggcncocat 60
 ggctccctag tgcctggag agganggggc tag 93

<210> 449
 <211> 706
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature

143

<222> (1)...(706)

<223> n = A,T,C or G

<400> 449

```

ccaagttcat gctntgtgct ggacgctgga caggggggcaa aagcnnntgc tcgtgggtca 60
ttctgancac cgaactgacc atgccagccc tgcgatggt cctccatggc tccctagtgc 120
cctggagagg aggtgtctag tcagagagta gtctggagc gtggcctctg ngaggagcca 180
cggggacagc atcctgcaga tggtcyggcg cgtcccaacc gccattcagg ctgoccaact 240
gttgggaagg gcgatcaglg cgggcctctt cgtctattac ccagctggcg aaagggtggt 300
gtgctqcaag gcgattcaat tgggtaaagc cagggttllc ccagtcncca cgttgtaaaa 360
cgacggucag tgaattgaal ttagglgacn ctatagaaga gctalqacgt cgcaltgcac 420
cgtacgttaag ctlggatcct ctagaagcggc cgcctactac tactaaattc gcggccgctg 480
cgacglggga tccncaactg gagagtggag agtgacatgt gctggacnct gtccatgaaq 540
cactgagcac aagctggagg cacaacgcnc cagacactca cagctactca ggaggctgag 600
aacaggttga acctgggagg tggagggttg aatgagctga gatcaggccn ctgcncccca 660
gcctggatga cagagtgaas ctccatctta aaaaaaaaaa aaaaaa 706

```

<210> 450

<211> 493

<212> DNA

<213> Homo sapiens

<400> 450

```

gagacggagt gtcaactctgt tgcccaggct ggagtgcagc aagacactgt ctaagaaaaa 60
acagttttta aaggtaaaac aacataaaaa gaaatatcct atagtggaaa taagagagtc 120
aatgagggtc gagaacttta caaagggtac ttacagacut gtgcacaata tcaactgatg 180
agcctaagta taagaacnac ctttggggag aaacctcat ttgacagtga ggtacaaatc 240
caagtcagggt agtgaattgg gtggcaattaa acacaaatta atcctgccaq ctgaaavgca 300
agagacactg tcagagaqtl aaaaaagtga ttctatccat ggggtgattc cagagltctc 360
tcaggtcaac acatctgtga actcacagac caagttctia aacnaactgt ccaactctgc 420
tacacatcag aatcacctgg agagctttac aaactcccat tgccgagggt cgacgcggcc 480
gcgaatttag tag 493

```

<210> 451

<211> 501

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(501)

<223> n = A,T,C or G

<400> 451

```

gggcgcgtcc cattcgccal tcaggctgag caactgttgg gaaggggcag cggctgcggg 60
ctclngcta ttacgccagc tggcgaaagg gggatgtgct gcaaggcgat taagttgggt 120
aacgccaggg ttttcccagt cncgacgttg taaaacgacg gccagtgaat tgaatttagg 180
lgacnctata gaagagctat gacgtcgcat gcacgcgtac gtaagcttgg atcctctaga 240
tgggcccgcct actactacta aattcgcggc cgcgtcgacg tgggatccnc actgagagag 300
tgggagagtga catgtgtgag acnctgtcca tgaagcactg agcagaagct ggaggacaaa 360
cgcncacagac actcacagct actcaggagg ctgagaacag gttgaacctg ggagggtggg 420
gttgcaatga gctgagatca ggcnctgcn cccagcatg gatgacagag tgaactcca 480
tortaaaaaa aaaaaaaaaa a
501

```

<210> 452

<211> 51

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(51)

144

<223> n = A,T,C or G

<400> 452
 agacggtttc accnttiacaa cncctttttag gatqggrrntt ggggagcag c 51

<210> 453
 <211> 317
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(317)
 <223> n = A,T,C or G

<400> 453
 tacatcttgc tttttcccca ttggaactag tcattaaccc atctctgaac tggtagaaaa 60
 acatctgaag agctagtcta tcagcatctg gcaagtgaat tggatgggtc tcagaacct 120
 ttcaaccana cagcctgttt ctatcctgtt taataaatta gtttgggttc tctacatgca 180
 taacaaaccc tgctccaatc tgtcacataa aagtcctgtg ctigaagttt antcagcacc 240
 cccaccaaac tttatttttc tatgtgtttt ttgcacata tgagtgtttt gaaaaataagg 300
 taccatgtc tttatta 317

<210> 454
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 454
 ttcgaggtac aatcaactct cagagtgtag ttctcttcta tagatgagtc agcattaata 60
 taagccacgc cagcctcttg aaggagtctt gaattctcct ctgtcactc agtagaacca 120
 agaagaccaa attcttctgc atcccagctt gcaaacaaaa ttgttctctt aggtctccac 180
 ccttcctttt tcagtgttcc aaagctctct acaatttcat gaacaacagc t 231

<210> 455
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 455
 taccaaagag ggataatua tcagtctcac agtaggggtc accatctctc aagtgaazaa 60
 cattgttccg aatgggcttt cccacggcta cacacacaaa acaggazaca tgccaagttt 120
 gtttcaacgc attgatgact lctccaggga tcttcttttg gcacagacca cattcagggg 180
 caaagaattt clcatagcac agctcacaat acagggctcc tttctctct a 231

<210> 456
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 456
 ttggcaggta ccttiacaaa gaagacacca taccttatgc gttattaggt ggaataatca 60
 ttccattcag tattatogtt attattcttg gagaacctt gtctgtttac tgtaaccttt 120
 tgcactcaaa ttcccttata aggaataact acatagccac tatttacaan gccattggaa 180
 cctttttatt tgggtgcagct gctagtcaat cctgactga cattgccaag t 231

<210> 457
 <211> 231
 <212> DNA
 <213> Homo sapiens

<220>

145

<221> misc_feature
 <222> {1}...{231}
 <223> n = A,T,C or G

<400> 457
 cgaggtaccc aggggtctga aaatctctnn ttantagtc gatagcaaaa ttgttcatca 60
 gcatccctta atatgctctt gctataatta gatttttctc cattagagtt catacagttt 120
 tatttgattt tattagcaat ctctttcaga agacccttga gatcattaa ctttqtatcc 180
 agttgtctaa atcgatgcct catttcctct gaggtgtcgc tggcttttgt g 231

<210> 458
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 458
 aggtctggtt ccccccaatt ccaactccct ctactctctc taggaactggg ctggggccaag 60
 agaagagggg tggtttaggg agccgtttag acclgaagcc ccacctctc ctttccttca 120
 acacctcacc ctttgggtaac agcatttggg attatcatt gggatgagta gaatttccaa 180
 ggtcctgggt taggcatttt gggggggccag cccccaggag aagaagattc t 231

<210> 459
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 459
 ggtaccgagg ctccgtgaca cagagaaaacc ccaacgcgag gaaagggaatg gucagccaca 60
 ccttcgcgaa acctgtggtg gccaccagt cctaaogga caggacagag agacagagca 120
 gccctgcact gtttccctc caccacagcc atcctgtccc tcattggntc tgtgctttcc 180
 actatacaca gtccccgttc cactgagaaa caaggaggag caccctccac a 231

<210> 460
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 460
 gcaggataaa catgctgcaa caacagatgt gactaggaac ggccggtgac atggggaggg 60
 cctatcacc ctttcttggg ggtgcttctc tcacagtgt catgaagcct agcagcaaat 120
 cccacctccc cacacgcaca cggccagcct ggagccaca gaagggtcct cctgcaquca 180
 gtggagcttg gtccagcctc cagtccacc ctaccaggct taaggataga a 231

<210> 461
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 461
 caagggtttga gaagctctaa tgtgcagggg agccgagaag caggcggcct agggagggtc 60
 gcgtgtgtctc cagaagagtg tgtgcatgcc agaggggaaa caggcgccct tgtgtccttg 120
 gtgggggttca gtgaggagtg ggaatttggg tcagcagaac caagccgttg ggtgaataag 180
 aggggggattc catggcactg atagagccct atagtttcag agctgggaat t 231

<210> 462
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 462
 aggtaccctc attgtagcca tgggaaaatt gatgttcagt ggggatcagt gaattaaatg 60
 gggtcattga agtataaaaa ttataaaaaa aagacilcct gcccaatctc atctgatgtg 120

146

gaagaactgt ttagagagacc aacagggttag tgggttagag atttccagag tcttacattt 180
tctagaggag gtattttaatt tcttctcact catccagtgt tgtatttagg a 231

<210> 463
<211> 231
<212> DNA
<213> Homo sapiens

<400> 463
tactccagcc tgggtgacaga gcgagacct atcaaccgcc cccacccccc caaaaaaaaa 60
actgagtaga cagggtgtcct ctgggcattg taagtcttaa gtccctccc agatctgtga 120
catttgacag gtgtcttttc ctctggacct cgggtgtccc atctgagtga gaaaaggcag 180
tggggagggtg gatcttccag tcgaagcggc atagaagccc gtgtgaaaag c 231

<210> 464
<211> 231
<212> DNA
<213> Homo sapiens

<400> 464
gtactctaaag allcttatcta agttgccctt tctgggtggg aaagtttaac cttagtgaact 60
aaggacatca catatgaaga atgtttaagt tggagggtggc aacgtgaatt gcaaacaggg 120
cctgcttcag tgactgtgtg cclgtagtcn cagctactcg ggagtctgtg tgaggccagg 180
ggtgncacag caccagctag atgctctgta acttctagge cccattttcc c 231

<210> 465
<211> 231
<212> DNA
<213> Homo sapiens

<400> 465
catgttgttg tagctgtggt aatgctgggt gcatctcaga cagggttaac tttagctcct 60
gtggcaaat agcaacaaat tctgacctca tatttatggt ttctgtctct ttgttgatga 120
aggatggcac aatttttget tgtgttcata atatactcaq attagttcag ctccatcaga 180
taaacctggag acatgcaggc cattagggtg gtgttgtagc tctggtaatg a 231

<210> 466
<211> 231
<212> DNA
<213> Homo sapiens

<400> 466
caggtaacct ttccatttg atactgtgct agcaagpatg ctctccgggg tttttttaat 60
ggccttcgaa cagaacttgc cacataccca ggtataatag ttctaacat ttgcccaggc 120
cctgtgaat caaatattgt ggagaattcc ctactggag aagtcacaaa gactataggc 180
aataatggag accagtcoca caagatgaca accagtgtt gtgtgaggct g 231

<210> 467
<211> 311
<212> DNA
<213> Homo sapiens

<400> 467
gtacacccctg gcacagtcac atctgaactg gttcggcact catctttcat gagatggatg 60
tgggtggttt cctccttttt catcaagact cctcagcagg gagcccagac cagcctgcac 120
tgtgccttaa cagaaggctct tgagallcta agtgggaatc atttcagtga ctgtcatgtg 180
gcacgggtct ctgcccaggc logtaatgag actatagcaa ggcggctgtg ggacgtcagt 240
tgtgacctgc tgggcccacc antagactaa caggcagtg cagttggacc caagaagaag 300
ctgcagcaga c 311

<210> 468
<211> 3112

catgtgttg	ggagaaaaac	agaggggga	ttgtgtggc	tgacggcag	ggagccagg	60
aagatctgc	tgggtgggaag	gacctgatg	tacagaqltt	gataggagac	aattaaaggc	120
tggaaagcac	tgyatgcctg	atgatgaagt	ggactttcaa	actggggcac	tactgaaacg	180
atgggttgg	caagagacaca	ggagatggagt	tggagcaagc	lcaataacaa	agtgtttcaa	240
cgaggacttg	gaattgcattg	gagctggagc	tgaagtttag	cccaatttgt	tactagttag	300
ctgaattgtg	atgaattgat	gatcatttct	catctcag	cctcaggttc	cccatccata	360
aatgggala	caagatgatg	ctataaaggt	gggatatagt	atgatctact	tcactgggtt	420
atttgaagg	tgaattgaga	taatttattt	caggtgccta	gaacaatgcc	cagattagta	480
catttgggtg	aactgggaaa	tggcataaca	ccaaatttaa	tatatgtcag	atgttactat	540
gattatcatt	caattctcat	gtttttgtat	ggoccaaatt	atcctcaact	gtgcctcaac	600
aaattgaact	gttacaagag	gaattctctg	tctgtggtaa	tggctgagca	ccactgagca	660
tttccattcc	agttggcttc	tgggttttgc	tagctgcato	actagtcatc	ttaaataaat	720
gaagtitttaa	cattttctcca	gtgatttttt	tatctcacot	tgaagataac	tatgtttagt	780
gattaaataa	agaacttgag	aagaacagggt	ttcattaaac	ataaaatcaa	tgtagacgca	840
aattttctgg	atgggcaata	cttatgttca	caggaaatgc	tttaaaatat	gcagaagata	900
atataatggc	aatggacaaa	gtgaaaaact	tagacttttt	tttttttttt	ggaagtatct	960
ggatgttctt	tagtcactta	aaggagaaact	gaaaaatagc	agtgtagttcc	acataatacca	1020
acctgtgaga	ttaaggctct	ttgtgggaa	ggacaaagat	ctgtaaattc	acagtttctt	1080
tccaaagcca	acgtcgaatt	ttgaaacata	tcaaagctct	tcttcaagac	aaataatcta	1140
tagtacatct	ttcttatggg	atgcacttat	gaaaaatggt	ggctgtcaac	atctagtcaac	1200
tttagctctc	aaaaatggtc	attttaagag	aaagtttttag	aatctcatat	ttattcttgt	1260
ggaaggacag	cattgtggct	tggactttat	aaggttctta	ttcaactcaa	taagtgagaa	1320
ataggaauag	ctgctgantt	tacuatctga	ggccacatat	ctgtgaaat	ggagataaatt	1380
aacatcacta	gaacaagcca	gotgcacala	tahtgtctaa	ctgtgtgcat	gttlllgcac	1440
attlccagcc	cctttcaala	tccacacaca	cagggaagcac	gaaggaagac	acagagatcc	1500
ctgggagaaa	tgcccgcccg	ccatcttggc	lcatcgaltga	gcctcgccct	gtgcctggtc	1560
ccgcttgtga	gggaaggaca	ttagaaaatg	aattgatgtg	ttccttaaa	gatgggcagg	1620
aaaacagatc	ctgttgtgga	tatttatttg	aacgggatta	cagatttgaa	atgaagtcaac	1680
aaagttagca	ttaccaatga	agggaaaaca	gacgagaaaa	tcttgatggc	ttcacaaagac	1740
atgcaacaaa	caaaatggaa	tactgtgatg	acatgaggca	gccaagctgg	ggagagata	1800
accaoggggc	agagggtcag	gattctggcc	ctgtgccta	aactgtgcgt	tcataacca	1860
atcatttcat	atttctaacc	ctcaaaaaca	agctgttgta	atactgatc	tctacgggtc	1920
ctctgggccc	caacattctc	catatatcca	gccaactcca	tttttaatat	ttagttccca	1980
gatctgtact	gtgacotttc	tacatgttag	aataacatta	ctcaatttgt	tcuaagaccc	2040
ttcgtgttgc	tgcctaatat	gtagctgaat	gttttcccta	aggagtgttc	tggccagggc	2100
gatctgtgaa	uaggctggga	agcatctcaa	gatctttcca	gggttataact	tactagagca	2160
vagcatgato	attacgggagt	gaattatcta	atcaaacatca	tctcagtggt	ctllgcccac	2220
actgaatc	atttccact	ttlgtgccc	tctcaagac	ctcaaaalgt	cattccattt	2280
atatcacagg	alaaactttt	tttttttaac	tggaagaatt	ctagtctaca	tgaagctatg	2340
ggatlllaet	lacaattttt	gttlllcaag	qcaagatgga	claggtcccl	tatccctccc	2400
ctttgtttga	ttttttllcc	agtataaagt	taaaatgntt	agccttgtac	tggagctgta	2460
tacagccaca	gacctccccc	atccctccag	ccttatctgt	catcaccatc	aacccctccc	2520
atgcacctaa	acaaaatota	aottgttaatt	ccttgaacat	gtcaggcata	cattattcct	2580
tctgcctgag	aagctcttcc	tgtctcttta	aatctagaat	gatgtaaagt	tttgaataag	2640
ttgactatct	tacttcatgc	aaagaaggga	cacatatgag	attcatcatc	acatgagaca	2700
gcaaatacta	aaagtgtaat	ttgattataa	gagtttagat	aaatatatga	aatgcaagag	2760
ccacagaggy	aatgtttatg	gggcaogttt	gtaagcctgg	gatgtgaagc	aaaggcaggg	2820
aacctcatag	tatcttatat	aatataactc	atttctctat	ctctatcaca	atatccaaca	2880
agctttttcac	agaattcatg	cagtgcaaat	ccccaaaggt	aacctttatc	catttcatgg	2940
tgagtgcgct	ttagaattttt	ggcaaatcat	actggtcact	tatctcaact	ttgagatgtg	3000
tttgtccttg	tagttaattg	aaagaaatag	ggcactcttg	tgagccactt	tagggttcc	3060
tcttggaact	aaagaattta	caaagagcaa	aaaaaanaaa	aaaaaanaaa	aa	3112

BNSDOCID: <WO__0125272A2TI_>

<400> 469

```

agctctttgt aaattcttta ttgccaggag tgaaccctaa agtgggtcac aagagtgcce 60
tatttctttc aattaactac aaggscacac acatctcaaa gttgagatga gtgaccagta 120
tgatttgcca aaattctaaa gcgcactcac catgaaatgg ataaaggtta cctttgggga 180
tttgcactgc atgaattctg tgaaggctt gttggatatt gtgtagaga tagagaaatg 240
aagtatatta tataagatag tatgaggttc cctgctttg cttcacatcc caggcttaca 300
aacgtgcccc ataaacattc cctctgtggc tcttgcatit catatattta tctaaactct 360
tataatcaaa tacactttta gtatttgctg tctcatgtga tcatgaatct catatgtgtc 420
ccttcttttg atgaagtaag atagtcaact caggcagaag gaataatgta tgctgacat gttcaaggaa 540
agagacaagg aagagcttct aggtgcatgg gaggggttga tggtagatgac agataaggct 600
ttacaagtta gattttgttt ggagaggctg tggctgtata cagctcagt acaaggctaa gcattttaac 660
tttatactgg aaaaaaaatc aaacaaaggg gagggataaa ggaacttagtc atctttgcac 720
tggaatacaa aatatgtaat taaattccca tagctgcatg taacattgaa ttcttcagg 780
ttaaaaaaaa agttaatcct gtgatattaa tggaaatgaca ttttgaggto ttgagaatgg 840
gcacaaaagt gggaaatgaa tticagtatg ggcagaagaca ctgaggatga tgttgattag 900
ataattcaat ccgtaatgat catgctgtgt tgggtcagaa caactcctag aaagacttg 960
agatgcttcc cagcctgttc acagatcccc agggccagaa cactccttag gaaaaacagt 1020
cagctacata ttaggcagca acacgaaggg acagatctgg gaactaaaat ttaaaaatga gtgtggttg 1140
cagctgtagaa aggtcacagt ccagaaggaa ccgtagagat cagatattac aacagctttg 1200
atatatggag aatgttgggc aatgatllg gttatgaacg caaggtllaq gcagcagggc 1260
tttgagggt tagaattatg ccgtggttat cctctcccc qcttggctgc ctcatgtcat 1320
cagactcctg accclctgoc ccgtggttat gttgcaagcc ctcaagattl lctcglcigt 1380
cacagtatcc ctttllgttt ttggtaatgc lcaatttgtg ccttctttc taaggacac atcaattcat 1500
tttctaatgt ccttctctca caagcgggac caggcacagg gcgaggctca tcatgacct 1560
aagatggcgg ccgggcatit ctcccaggga tctctgtgt tctttttgtg cactactta gacattatat 1680
gtgtggatat tttaaagggc tggaaatgtg tgatgttaat tatctccatt tcaacagatg tgtggcctca 1740
tgtcatcttg ctgtttctag tcatgttaat tcaactggaa atacttgatt gagagctaca cacuatatta 1860
gatggtaaag tcagcagcct gcataccctg tgtttcttca ctgggcacag aattttaata 1920
agacaaatgg caagggtgta acacccctct atgaagcaat ctacataaag tcaactagt 1980
ttggtttccg agcatcacaa gcaggaaucac ctuttgaggt cccclctaqa gatccccag gtcalatgac 2040
cttatttcag tgggctgttg gcacaccatt acacclqtaa tcccagcact lctggaggct gaggcaqytg 2100
agtgcctgac acacaccatt acacclqtaa tcccagcact lctggaggct atgqlgaac cccatctcta 2160
ttcttgggga ggtacclqaa tcaagaccag cctggccaat tgaatccca gccccacac 2220
ctaaaaaaLac aaaaatttagc tgggcgtgct ggtgcatgac tgaatccca gccccacac 2229
aatggcaat

```

<210> 470

<211> 2426

<212> DNA

<213> Homo sapiens

<400> 470

```

gtaaattctt tattgccagg agtgaaccct aaagtggctc acaagagtgc cctattttct 60
tcaatttaact accaggacaa acacatctca aagtggat aagtgaccag tatgatttgc 120
caaaattcta aagcgcatc accatgaaat ggtatgaagg tacctttggg gatttgcact 180
gcatgaattc tgtgaaggc ttgttgatga ttgtgataga gttgagana tgaagtatat 240
tatataagat actatgaggt tccctgcttt tcttcauet tccaggctta caaacgtgoc 300
ccataaacat tccclctgtg gctcttgcat ttcalatall tatctaaact cttataatca 360
aattacactt ttagtatttg clgtctcatg tcatgatgaa lclcataatgt gtcccttctt 420
tgcataaagt aagatagltca acttallcaa aacillacal cactctagat ttaaggagaa 480
aggaagagct tctcaggcag aaggaataat gtatgcctga catgttcaag gaatlacag 540
ttagatcttg tttaggtgca tgggaggggt tgalcqlgat gacagalaag gctggaggga 600
tggggagggg ctgtggctgt alacagccct agcaccaagg taagcatttt gtcactcttt 660
tggaananaa atcaaaacaa ggggagggal aaggactta gtcatctttg caetggaaaa 720
c000at0t0t aattaaattc ccatagtctg atgtaacatt gaattcttcc aggttaaaaa 780
a00tg0gaaa tgaatttcag tatggcaca gacattttga ggtcttgaga atgggcaca 840
cactc0gtaa tgatcatgct gtgtgctagt aagtataacc ctggaagat cttgagatgc 960

```

```

ttcccagcct gttcacagat cccctgggccc agaacactcc ttaggaaaaa cagtcagcta 1020
catattaggg agcaacacga aggggtctttg aacbaaatga gtaatgttat tctacagtgt 1080
agaaagggtca cagtacagat ctgggaacta aatattaaag atgagtgtgg ctggatatat 1140
ggagaatggt gggcccagaa ggaaccgtag agatcagata ttacaacagc tttgttttga 1200
gggttggaaa tatgaaatga tttgggttatg aacgcacagt ttaggcagca gggccagaat 1260
cctgacccctc tgcacctgtg ttatctctctc cccagcttgg ctgcctcatg tcatcacagt 1320
atcccaatgt gtttgttgca tgtcttgtga agccatcaag attttctcgt ctgttttctt 1380
ctcattggtt atgtcactt tgtgacttca tttcaaatct gtaatccgt tcaaataaat 1440
atccacaaca ggtctgttt tcttgcctat cctttaagga acacatcaat tcattttcta 1500
atgtccttcc clcacaaagg ggaaccaggca caggggcagag ctcctcagat acccaagatg 1560
gccccggggc atttctccca gggatctctg tgccttcttt tgtgttctt gtgtgtgtgg 1620
atatttaag gggctggaaa tgtgcaaaaa catgtcacta cttagacatt atattgtcat 1680
cttgtctgtt ctagtgtgt taattatctc catctcagca gatgtgtggc ctgagtgtgt 1740
aaagtacgca gcttttctta tttctcaact ggaaatacat acgaccattt gaggagacaa 1800
atggcaaggt gtcagcatac cctgaacttg agttgagagc tacacacaat attattggtt 1860
tcagagcctc acaaacaccc tctctgtttc ttcactgggc acagaatttt aatcttatt 1920
tcagtgggtc gttggcagga acaaatgaag caatctacat aaagtacta gtgcagtggc 1980
tgacacacac cattctcttg aggtccctc tagagatccc acaggtctca tgacttcttg 2040
gggagcagtg gctcacacct gtaatcccg cactttggga ggtgaggaac ggtgggtcac 2100
ctgaggtcag gattcaaga ccagcctggc caatltgglg aaacccctc lclactaaaa 2160
atacaaaaat tagctggcg tgcctgtgca tgcctgtaat cccagctact tgggaggtct 2220
aggcaggaga attgctggaa catgggagga ggaagttgca gtgagctgta attgtgcat 2280
tgactcgaa cctgggcgac agagtggac tctgttcca aaaaaaac aaacaaaaa 2340
ggctagtca gataaacql ggtgggtg tgtaataga agcaggatat aaagggcatg 2400
gggtgacggt tttgcccac acactg

```

<210> 471
 <211> 812
 <212> DNA
 <213> Homo sapiens

```

<400> 471
gaacaaaatg agtaatgta ttctacagt tagaagggtc acaqlacaga tctgggaact 60
aaatattaaa aatgagtgtg gctggatata tggagatgt tgggccaga aggaaccgta 120
gagatcagat attacaacag ctttgttttg aggliaaga atalgaatg atttggttat 180
gaaogcacag tttaggcagc agggccaaga tctgaccct ctgcccctg gttatctct 240
ccccagcttg gctgcctcat gtcactcacg tattccattt tgtttgttg atgtcttgt 300
aagccatcaa qatlllclcg tclgtlllcc tctcattggt aatgtcact ttgtgacttc 360
atttcaatc tgaatcccg ttcaaataaa tatccacaa aggatctgtt ttcctgcca 420
tcclltaagg aacacatcaa ttcattttct aatgtccttc cctcacaagc gggaccaggc 480
aaggggcagg gctcatcgat gacccaagat ggcggccggg catttctccc agggatctct 540
qltcltccct ttgtgttcc tgtgtgtgtg gatatttaa ggggctggaa atgtgcaaaa 600
acatgtcact acttagacat tataattgtc tcttgtgtt tctagtgtg ttaattatct 660
ccatttcagc agatgtgtgg cctcagatgg taaagtcagc agcctttctt atttctcacc 720
tctgtatcat caggctcttc ccacatgca gatcttctg gtctcctctg gctgcagcca 780
cacaatctc cctctgttt ttctgatgcc ag

```

<210> 472
 <211> 515
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc feature
 <222> (1)...(515)
 <223> n = A, T, C or G

```

<400> 472
acggagattt atttctgat attgtctgca tatgtatgtt tttaaagatc tggaaatagt 60
cttatgactl tctatcaic cttatttaata aataatacag cccagagaag atgaaaatgg 120
gttucagaat tattggtctt tgcagcccg tgaatctcag caagaggaa caccaactga 180
caatcaggat attgaacctg gacaagagag agaaggaaca cctccgatcg aagaacgtaa 240

```

150

```

agtagaaggt gattgccagg aatggatct ggaaaagact cggagtgagc gtggagatgg 300
ctctgatgta aaagagaaga ctccacctaa tcttaagcat gctaagacta aagaagcagg 360
agatgggcag ccataagtta aagaagaagac aagctgaagc tacacacatg gctgatgtca 420
cattgaaaat gtgactgaaa atttgaaaat tctctcaata aagtttgagt tttctctgaa 480
gaaaaaaaaaa naaaaaaaaa aaaaaaaaaa aaaaaa 515

```

<210> 473

<211> 750

<212> PRT

<213> Homo sapiens

<400> 473

```

Met Trp Asn Leu Leu His Glu Thr Asp Ser Ala Val Ala Thr Ala Arg
          5                      10                      15

```

```

Arg Pro Arg Trp Leu Cys Ala Gly Ala Leu Val Leu Ala Gly Gly Phe
          20                      25                      30

```

```

Phe Leu Leu Gly Phe Leu Phe Gly Trp Phe Ile Lys Ser Ser Asn Glu
          35                      40                      45

```

```

Ala Thr Asn Ile Thr Pro Lys His Asn Met Lys Ala Phe Leu Asp Glu
          50                      55                      60

```

```

Leu Lys Ala Glu Asn Ile Lys Lys Phe Leu Tyr Asn Phe Thr Gln Ile
          65                      70                      75                      80

```

```

Pro His Leu Ala Gly Thr Glu Gln Asn Phe Gln Leu Ala Lys Gln Ile
          85                      90                      95

```

```

Gln Ser Gln Trp Lys Glu Phe Gly Leu Asp Ser Val Glu Leu Ala His
          100                     105                     110

```

```

Tyr Asp Val Leu Leu Ser Tyr Pro Asn Lys Thr His Pro Asn Tyr Ile
          115                     120                     125

```

```

Ser Ile Ile Asn Glu Asp Gly Asn Glu Ile Phe Asn Thr Ser Leu Phe
          130                     135                     140

```

```

Glu Pro Pro Pro Pro Gly Tyr Glu Asn Val Ser Asp Ile Val Pro Pro
          145                     150                     155                     160

```

```

Phe Ser Ala Phe Ser Pro Gln Gly Met Pro Glu Gly Asp Leu Val Tyr
          165                     170                     175

```

```

Val Asn Tyr Ala Arg Thr Glu Asp Phe Phe Lys Leu Glu Arg Asp Met
          180                     185                     190

```

```

Lys Ile Asn Cys Ser Gly Lys Ile Val Ile Ala Arg Tyr Gly Lys Val
          195                     200                     205

```

```

Phe Arg Gly Asn Lys Val Lys Asn Ala Gln Leu Ala Gly Ala Lys Gly
          210                     215                     220

```

```

Val Ile Leu Tyr Ser Asp Pro Ala Asp Tyr Phe Ala Pro Gly Val Lys
          225                     230                     235                     240

```

```

Ser Tyr Pro Asp Gly Trp Asn Leu Pro Gly Gly Gly Val Gln Arg Gly
          245                     250                     255

```

```

Asn Ile Leu Asn Leu Asn Gly Ala Gly Asp Pro Leu Thr Pro Gly Tyr

```

	260						265						270					
Pro	Ala	Asn	Glu	Tyr	Ala	Tyr	Arg	Arg	Gly	Ile	Ala	Glu	Ala	Val	Gly			
		275					280					285						
Leu	Pro	Ser	Ile	Pro	Val	His	Pro	Ile	Gly	Tyr	Tyr	Asp	Ala	Gln	Lys			
	290					295					300							
Leu	Leu	Glu	Lys	Met	Gly	Gly	Ser	Ala	Pro	Pro	Asp	Ser	Ser	Trp	Arg			
305					310					315					320			
Gly	Ser	Leu	Lys	Val	Pro	Tyr	Asn	Val	Gly	Pro	Gly	Phe	Thr	Gly	Asn			
				325					330					335				
Phe	Ser	Thr	Gln	Lys	Val	Lys	Met	His	Ile	His	Ser	Thr	Asn	Glu	Val			
			340					345					350					
Thr	Arg	Ile	Tyr	Asn	Val	Ile	Gly	Thr	Leu	Arg	Gly	Ala	Val	Glu	Pro			
		355					360					365						
Asp	Arg	Tyr	Val	Ile	Leu	Gly	Gly	His	Arg	Asp	Ser	Trp	Val	Phe	Gly			
	370					375					380							
Gly	Ile	Asp	Pro	Gln	Ser	Gly	Ala	Ala	Val	Val	His	Glu	Ile	Val	Arg			
385					390					395					400			
Ser	Phe	Gly	Thr	Leu	Lys	Lys	Glu	Gly	Trp	Arg	Pro	Arg	Arg	Thr	Ile			
				405					410					415				
Leu	Phe	Ala	Ser	Trp	Asp	Ala	Glu	Glu	Phe	Gly	Leu	Leu	Gly	Ser	Thr			
			420					425					430					
Glu	Trp	Ala	Glu	Glu	Asn	Ser	Arg	Leu	Leu	Gln	Glu	Arg	Gly	Val	Ala			
		435					440					445						
Tyr	Ile	Asn	Ala	Asp	Ser	Ser	Ile	Glu	Gly	Asn	Tyr	Thr	Leu	Arg	Val			
	450					455					460							
Asp	Cys	Thr	Pro	Leu	Met	Tyr	Ser	Leu	Val	His	Asn	Leu	Thr	Lys	Glu			
465					470					475					480			
Leu	Lys	Ser	Pro	Asp	Glu	Gly	Phe	Glu	Gly	Lys	Ser	Leu	Tyr	Glu	Ser			
				485					490					495				
Trp	Thr	Lys	Lys	Ser	Pro	Ser	Pro	Glu	Phe	Ser	Gly	Met	Pro	Arg	Ile			
			500					505					510					
Ser	Lys	Leu	Gly	Ser	Gly	Asn	Asp	Phe	Glu	Val	Phe	Phe	Gln	Arg	Leu			
		515					520					525						
Gly	Ile	Ala	Ser	Gly	Arg	Ala	Arg	Tyr	Thr	Lys	Asn	Trp	Glu	Thr	Asn			
	530					535					540							
Lys	Phe	Ser	Gly	Tyr	Pro	Leu	Tyr	His	Ser	Val	Tyr	Glu	Thr	Tyr	Glu			
545					550					555					560			
Leu	Val	Gln	Lys	Phe	Tyr	Asp	Pro	Met	Phe	Lys	Tyr	His	Leu	Thr	Val			
				565					570					575				
Ala	Gln	Val	Arg	Gly	Gly	Met	Val	Phe	Glu	Leu	Ala	Asn	Ser	Ile	Val			
			580					585					590					

152

Leu Pro Phe Asp Cys Arg Asp Tyr Ala Val Val Leu Arg Lys Tyr Ala
 595 600 605
 Asp Lys Ile Tyr Ser Ile Ser Met Lys His Pro Gln Glu Met Lys Thr
 610 615 620
 Tyr Ser Val Ser Phe Asp Ser Leu Phe Ser Ala Val Lys Asn Phe Thr
 625 630 635 640
 Glu Ile Ala Ser Lys Phe Ser Glu Arg Leu Gln Asp Phe Asp Lys Ser
 645 650 655
 Asn Pro Ile Val Leu Arg Met Met Asn Asp Gln Leu Met Phe Leu Glu
 660 665 670
 Arg Ala Phe Ile Asp Pro Leu Gly Leu Pro Asp Arg Pro Phe Tyr Arg
 675 680 685
 His Val Ile Tyr Ala Pro Ser Ser His Asn Lys Tyr Ala Gly Glu Ser
 690 695 700
 Phe Pro Gly Ile Tyr Asp Ala Leu Phe Asp Ile Glu Ser Lys Val Asp
 705 710 715 720
 Pro Ser Lys Ala Trp Gly Glu Val Lys Arg Gln Ile Tyr Val Ala Ala
 725 730 735
 Phe Thr Val Gln Ala Ala Ala Glu Thr Leu Ser Glu Val Ala
 740 745 750

<210> 474

<211> 386

<212> PRT

<213> Homo sapiens

<400> 474

Met Arg Ala Ala Pro Leu Leu Leu Ala Arg Ala Ala Ser Leu Ser Leu
 5 10 15
 Gly Phe Leu Phe Leu Leu Phe Phe Trp Leu Asp Arg Ser Val Leu Ala
 20 25 30
 Lys Glu Leu Lys Phe Val Thr Leu Val Phe Arg His Gly Asp Arg Ser
 35 40 45
 Pro Ile Asp Thr Phe Pro Thr Asp Pro Ile Lys Glu Ser Ser Trp Pro
 50 55 60
 Gln Gly Phe Gly Gln Leu Thr Gln Leu Gly Met Glu Gln His Tyr Glu
 65 70 75 80
 Leu Gly Glu Tyr Ile Arg Lys Arg Tyr Arg Lys Phe Leu Asn Glu Ser
 85 90 95
 Tyr Lys His Glu Gln Val Tyr Ile Arg Ser Thr Asp Val Asp Arg Thr
 100 105 110
 Leu Met Ser Ala Met Thr Asn Leu Ala Ala Leu Phe Pro Pro Glu Gly
 115 120 125
 Val Ser Ile Trp Asn Pro Ile Leu Leu Trp Gln Pro Ile Pro Val His

153

130	135	140
Thr Val Pro Leu Ser Glu Asp Gln Leu Leu Tyr Leu Pro Phe Arg Asn 145 150 155 160		
Cys Pro Arg Phe Gln Glu Leu Glu Ser Glu Thr Leu Lys Ser Glu Glu 165 170 175		
Phe Gln Lys Arg Leu His Pro Tyr Lys Asp Phe Ile Ala Thr Leu Gly 180 185 190		
Lys Leu Ser Gly Leu His Gly Gln Asp Leu Phe Gly Ile Trp Ser Lys 195 200 205		
Val Tyr Asp Pro Leu Tyr Cys Glu Ser Val His Asn Phe Thr Leu Pro 210 215 220		
Ser Trp Ala Thr Glu Asp Thr Met Thr Lys Leu Arg Glu Leu Ser Glu 225 230 235 240		
Leu Ser Leu Leu Ser Leu Tyr Gly Ile His Lys Gln Lys Glu Lys Ser 245 250 255		
Arg Leu Gln Gly Gly Val Leu Val Asn Glu Ile Leu Asn His Met Lys 260 265 270		
Arg Ala Thr Gln Ile Pro Ser Tyr Lys Lys Leu Ile Met Tyr Ser Ala 275 280 285		
His Asp Thr Thr Val Ser Gly Leu Gln Met Ala Leu Asp Val Tyr Asn 290 295 300		
Gly Leu Leu Pro Pro Tyr Ala Ser Cys His Leu Thr Glu Leu Tyr Phe 305 310 315 320		
Glu Lys Gly Glu Tyr Phe Val Glu Met Tyr Tyr Arg Asn Glu Thr Gln 325 330 335		
His Glu Pro Tyr Pro Leu Met Leu Pro Gly Cys Ser Pro Ser Cys Pro 340 345 350		
Leu Glu Arg Phe Ala Glu Leu Val Gly Pro Val Ile Pro Gln Asp Trp 355 360 365		
Ser Thr Glu Cys Met Thr Thr Asn Ser His Gln Gly Thr Glu Asp Ser 370 375 380		
Thr Asp 385		
 <210> 475 <211> 261 <212> PRT <213> Homo sapiens <400> 475 Met Trp Val Pro Val Val Phe Leu Thr Leu Ser Val Thr Trp Ile Gly 5 10 15 Ala Ala Pro Leu Ile Leu Ser Arg Ile Val Gly Gly Trp Glu Cys Glu 20 25 30		

154

Lys His Ser Gln Pro Trp Gln Val Leu Val Ala Ser Arg Gly Arg Ala
 35 40 45
 Val Cys Gly Gly Val Leu Val His Pro Gln Trp Val Leu Thr Ala Ala
 50 55 60
 His Cys Ile Arg Asn Lys Ser Val Ile Leu Leu Gly Arg His Ser Leu
 65 70 75 80
 Phe His Pro Glu Asp Thr Gly Gln Val Phe Gln Val Ser His Ser Phe
 85 90 95
 Pro His Pro Leu Tyr Asp Met Ser Leu Leu Lys Asn Arg Phe Leu Arg
 100 105 110
 Pro Gly Asp Asp Ser Ser His Asp Leu Met Leu Leu Arg Leu Ser Glu
 115 120 125
 Pro Ala Glu Leu Thr Asp Ala Val Lys Val Met Asp Leu Pro Thr Gln
 130 135 140
 Glu Pro Ala Leu Gly Thr Thr Cys Tyr Ala Ser Gly Trp Gly Ser Ile
 145 150 155 160
 Glu Pro Glu Glu Phe Leu Thr Pro Lys Lys Leu Gln Cys Val Asp Leu
 165 170 175
 His Val Ile Ser Asn Asp Val Cys Ala Gln Val His Pro Gln Lys Val
 180 185 190
 Thr Lys Phe Met Leu Cys Ala Gly Arg Trp Thr Gly Gly Lys Ser Thr
 195 200 205
 Cys Ser Gly Asp Ser Gly Gly Pro Leu Val Cys Asn Gly Val Leu Gln
 210 215 220
 Gly Ile Thr Ser Trp Gly Ser Glu Pro Cys Ala Leu Pro Glu Arg Pro
 225 230 235 240
 Ser Leu Tyr Thr Lys Val Val His Tyr Arg Lys Trp Ile Lys Asp Thr
 245 250 255
 Ile Val Ala Asn Pro
 260

<210> 476

<211> 1079

<212> PRT

<213> Homo sapiens

<400> 476

Met His His His His His His Met Trp Val Pro Val Val Phe Leu Thr
 5 10 15

Leu Ser Val Thr Trp Ile Gly Ala Ala Pro Leu Ile Leu Ser Arg Ile
 20 25 30

Val Gly Gly Trp Glu Cys Glu Lys His Ser Gln Pro Trp Gln Val Leu
 35 40 45

Val Ala Ser Arg Gly Arg Ala Val Cys Gly Gly Val Leu Val His Pro
 50 55 60
 Gln Trp Val Leu Thr Ala Ala His Cys Ile Arg Asn Lys Ser Val Ile
 65 70 75 80
 Leu Leu Gly Arg His Ser Leu Phe His Pro Glu Asp Thr Gly Gln Val
 85 90 95
 Phe Gln Val Ser His Ser Phe Pro His Pro Leu Tyr Asp Met Ser Leu
 100 105 110
 Leu Lys Asn Arg Phe Leu Arg Pro Gly Asp Asp Ser Ser His Asp Leu
 115 120 125
 Met Leu Leu Arg Leu Ser Glu Pro Ala Glu Leu Thr Asp Ala Val Lys
 130 135 140
 Val Met Asp Leu Pro Thr Gln Glu Pro Ala Leu Gly Thr Thr Cys Tyr
 145 150 155 160
 Ala Ser Gly Trp Gly Ser Ile Glu Pro Glu Glu Phe Leu Thr Pro Lys
 165 170 175
 Lys Leu Gln Cys Val Asp Leu His Val Ile Ser Asn Asp Val Cys Ala
 180 185 190
 Gln Val His Pro Gln Lys Val Thr Lys Phe Met Leu Cys Ala Gly Arg
 195 200 205
 Trp Thr Gly Gly Lys Ser Thr Cys Ser Gly Asp Ser Gly Gly Pro Leu
 210 215 220
 Val Cys Asn Gly Val Leu Gln Gly Ile Thr Ser Trp Gly Ser Glu Pro
 225 230 235 240
 Cys Ala Leu Pro Glu Arg Pro Ser Leu Tyr Thr Lys Val Val His Tyr
 245 250 255
 Arg Lys Trp Ile Lys Asp Thr Ile Val Ala Asn Pro Gly Ser Met Ala
 260 265 270
 Thr Ala Gly Asn Pro Trp Gly Trp Phe Leu Gly Tyr Leu Ile Leu Gly
 275 280 285
 Val Ala Gly Ser Leu Val Ser Gly Ser Cys Ser Gln Ile Ile Asn Gly
 290 295 300
 Glu Asp Cys Ser Pro His Ser Gln Pro Trp Gln Ala Ala Leu Val Met
 305 310 315 320
 Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp Val
 325 330 335
 Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu Gly
 340 345 350
 Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val Glu
 355 360 365
 Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro Leu Leu Ala
 370 375 380

156

Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser Asp
 385 390 395 400
 Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly Asn
 405 410 415
 Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly Arg Met Pro
 420 425 430
 Thr Val Leu Gln Cys Val Asn Val Ser Val Val Ser Glu Glu Val Cys
 435 440 445
 Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe Cys Ala Gly
 450 455 460
 Gly Gly Gln Asp Gln Lys Asp Ser Cys Asn Gly Asp Ser Gly Gly Pro
 465 470 475 480
 Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe Gly Lys Ala
 485 490 495
 Pro Cys Gly Gln Val Gly Val Pro Gly Val Tyr Thr Asn Leu Cys Lys
 500 505 510
 Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Ala Ser Glu Phe Met Val
 515 520 525
 Gln Arg Leu Trp Val Ser Arg Leu Leu Arg His Arg Lys Ala Gln Leu
 530 535 540
 Leu Leu Val Asn Leu Leu Thr Phe Gly Leu Glu Val Cys Leu Ala Ala
 545 550 555 560
 Gly Ile Thr Tyr Val Pro Pro Leu Leu Leu Glu Val Gly Val Glu Glu
 565 570 575
 Lys Phe Met Thr Met Val Leu Gly Ile Gly Pro Val Leu Gly Leu Val
 580 585 590
 Cys Val Pro Leu Leu Gly Ser Ala Ser Asp His Trp Arg Gly Arg Tyr
 595 600 605
 Gly Arg Arg Arg Pro Phe Ile Trp Ala Leu Ser Leu Gly Ile Leu Leu
 610 615 620
 Ser Leu Phe Leu Ile Pro Arg Ala Gly Trp Leu Ala Gly Leu Leu Cys
 625 630 635 640
 Pro Asp Pro Arg Pro Leu Glu Leu Ala Leu Leu Ile Leu Gly Val Gly
 645 650 655
 Leu Leu Asp Phe Cys Gly Gln Val Cys Phe Thr Pro Leu Glu Ala Leu
 660 665 670
 Leu Ser Asp Leu Phe Arg Asp Pro Asp His Cys Arg Gln Ala Tyr Ser
 675 680 685
 Val Tyr Ala Phe Met Ile Ser Leu Gly Gly Cys Leu Gly Tyr Leu Leu
 690 695 700
 Pro Ala Ile Asp Trp Asp Thr Ser Ala Leu Ala Pro Tyr Leu Gly Thr

705	710	715	720
Gln Glu Glu Cys Leu Phe Gly Leu Leu Thr Leu Ile Phe Leu Thr Cys			
725		730	735
Val Ala Ala Thr Leu Leu Val Ala Glu Glu Ala Ala Leu Gly Pro Thr			
740	745		750
Glu Pro Ala Glu Gly Leu Ser Ala Pro Ser Leu Ser Pro His Cys Cys			
755	760	765	
Pro Cys Arg Ala Arg Leu Ala Phe Arg Asn Leu Gly Ala Leu Leu Pro			
770	775	780	
Arg Leu His Gln Leu Cys Cys Arg Met Pro Arg Thr Leu Arg Arg Leu			
785	790	795	800
Phe Val Ala Glu Leu Cys Ser Trp Met Ala Leu Met Thr Phe Thr Leu			
805	810		815
Phe Tyr Thr Asp Phe Val Gly Glu Gly Leu Tyr Gln Gly Val Pro Arg			
820	825		830
Ala Glu Pro Gly Thr Glu Ala Arg Arg His Tyr Asp Glu Gly Val Arg			
835	840	845	
Met Gly Ser Leu Gly Leu Phe Leu Gln Cys Ala Ile Ser Leu Val Phe			
850	855	860	
Ser Leu Val Met Asp Arg Leu Val Gln Arg Phe Gly Thr Arg Ala Val			
865	870	875	880
Tyr Leu Ala Ser Val Ala Ala Phe Pro Val Ala Ala Gly Ala Thr Cys			
885	890		895
Leu Ser His Ser Val Ala Val Val Thr Ala Ser Ala Ala Leu Thr Gly			
900	905		910
Phe Thr Phe Ser Ala Leu Gln Ile Leu Pro Tyr Thr Leu Ala Ser Leu			
915	920		925
Tyr His Arg Glu Lys Gln Val Phe Leu Pro Lys Tyr Arg Gly Asp Thr			
930	935	940	
Gly Gly Ala Ser Ser Glu Asp Ser Leu Met Thr Ser Phe Leu Pro Gly			
945	950	955	960
Pro Lys Pro Gly Ala Pro Phe Pro Asn Gly His Val Gly Ala Gly Gly			
965	970	975	
Ser Gly Leu Leu Pro Pro Pro Pro Ala Leu Cys Gly Ala Ser Ala Cys			
980	985	990	
Asp Val Ser Val Arg Val Val Val Gly Glu Pro Thr Glu Ala Arg Val			
995	1000	1005	
Val Pro Gly Arg Gly Ile Cys Leu Asp Leu Ala Ile Leu Asp Ser Ala			
1010	1015	1020	
Phe Leu Leu Ser Gln Val Ala Pro Ser Leu Phe Met Gly Ser Ile Val			
1025	1030	1035	1040

158

Gln Leu Ser Gln Ser Val Thr Ala Tyr Met Val Ser Ala Ala Gly Leu
1045 1050 1055

Gly Leu Val Ala Ile Tyr Phe Ala Thr Gln Val Val Phe Asp Lys Ser
1060 1065 1070

Asp Leu Ala Lys Tyr Ser Ala
1075

440